

WEST Search History

DATE: Thursday, November 14, 2002

<u>Set Name</u>	<u>Query</u>	<u>Hit Count</u>	<u>Set Name</u>
side by side			result set
<i>DB=USPT; PLUR=YES; OP=ADJ</i>			
L5	L4 and restenosis	77	L5
L4	l2 same (polymorphism or mutation or variant)	745	L4
L3	L2 and restenosis	912	L3
L2	interleukin or IL-1\$	15593	L2
L1	interleukin or IL\$	216462	L1

END OF SEARCH HISTORY

Brain,disease...

stroke; interleukin 1H4 and mature IL-1H4 for screening agonists and antagonists for treating inflammation, infection, cancer, autoimmune disease and others

Interleukins...

14; interleukin 1H4 and mature IL-1H4 for screening agonists and antagonists for treating inflammation, infection, cancer, autoimmune disease and others

CAS REGISTRY NUMBERS:

265295-30-5 343914-85-2 amino acid sequence; interleukin 1H4 and mature IL-1H4 for screening agonists and antagonists for treating inflammation, infection, cancer, autoimmune disease and others
175941-97-6 209511-54-6 224113-70-6 interleukin 1H4 and mature IL-1H4 for screening agonists and antagonists for treating inflammation, infection, cancer, autoimmune disease and others
303170-58-3 nucleotide sequence; interleukin 1H4 and mature IL-1H4 for screening agonists and antagonists for treating inflammation, infection, cancer, autoimmune disease and others
343916-05-2 343916-06-3 unclaimed nucleotide sequence; interleukin-1 homolog, MAT IL-1H4
343779-79-3 unclaimed sequence; interleukin-1 homolog, MAT IL-1H4

4/7/13 (Item 2 from file: 399)

DIALOG(R)File 399:CA SEARCH(R)

(c) 2001 AMERICAN CHEMICAL SOCIETY. All rts. reserv.

134026093 CA: 134(3)26093t PATENT

Diagnostics and therapeutics for restenosis based on genotyping of the interleukin-1 family

INVENTOR(AUTHOR): Kornman, Kenneth S.; Duff, Gordon W.; Crossman, David C.; Francis, Sheila E.; Stephenson, Katherine

LOCATION: USA

ASSIGNEE: Interleukin Genetics, Inc.

PATENT: PCT International ; WO 200071753 A2 DATE: 20001130

APPLICATION: WO 2000US14299 (20000524) *US 317674 (19990524) *US 431352 (19991101)

PAGES: 129 pp. CODEN: PIXXD2 LANGUAGE: English CLASS: C12Q-001/68A

DESIGNATED COUNTRIES: AE; AG; AL; AM; AT; AU; AZ; BA; BB; BG; BR; BY; CA; CH; CN; CR; CU; CZ; DE; DK; DM; DZ; EE; ES; FI; GB; GD; GE; GH; GM; HR; HU; ID; IL; IN; IS; JP; KE; KG; KP; KR; KZ; LC; LK; LR; LS; LT; LU; LV; MA; MD; MG; MK; MN; MW; MX; NO; NZ; PL; PT; RO; RU; SD; SE; SG; SI; SK; SL; TJ; TM; TR; TT; TZ; UA; UG; US; UZ; VN; YU; ZA; ZW; AM; AZ; BY; KG; KZ; MD; RU; TJ; TM DESIGNATED REGIONAL: GH; GM; KE; LS; MW; MZ; SD; SL; SZ; TZ; UG; ZW; AT ; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LU; MC; NL; PT; SE; BF; BJ; CF; CG; CI; CM; GA; GN; GW; ML; MR; NE; SN; TD; TG

SECTION:

CA203003 Biochemical Genetics

CA201XXX Pharmacology

CA209XXX Biochemical Methods

CA214XXX Mammalian Pathological Biochemistry

CA215XXX Immunochemistry

IDENTIFIERS: interleukin 1 genotyping restenosis diagnosis therapeutic

DESCRIPTORS:

Nucleic acid hybridization...

allele-specific; diagnostics and therapeutics for restenosis based on genotyping of the interleukin-1 family

Artery,disease...

coronary, restenosis; diagnostics and therapeutics for restenosis based
on genotyping of the interleukin-1 family
Allele frequency... Anticoagulants... Antihypertensives... Antisense
oligonucleotides... Anti-inflammatory agents... DNA sequence analysis...
Drug screening... Genetic polymorphism... Genotyping(method)... Hypolipemic
agents... Interleukin 1 receptor antagonist... Interleukin 1.alpha....
Interleukin 1.beta.... Interleukin 1... Mutation... Platelet aggregation
inhibitors... Primers(nucleic acid)... RFLP(restriction fragment length
polymorphism)... Ribozymes... SSCP(single-strand conformation polymorphism)
... Test kits...
diagnostics and therapeutics for restenosis based on genotyping of the
interleukin-1 family
Diagnosis...
genetic; diagnostics and therapeutics for restenosis based on
genotyping of the interleukin-1 family
Gene,animal...
IL-1RN; diagnostics and therapeutics for restenosis based on genotyping
of the interleukin-1 family
Gene,animal...
IL1A; diagnostics and therapeutics for restenosis based on genotyping
of the interleukin-1 family
Gene,animal...
IL1B; diagnostics and therapeutics for restenosis based on genotyping
of the interleukin-1 family
Heart,disease...
infarction; diagnostics and therapeutics for restenosis based on
genotyping of the interleukin-1 family
Blood vessel,disease...
occlusion; diagnostics and therapeutics for restenosis based on
genotyping of the interleukin-1 family
Genetic methods...
oligonucleotide ligation assay; diagnostics and therapeutics for
restenosis based on genotyping of the interleukin-1 family
Periodontium...
periodontitis; diagnostics and therapeutics for restenosis based on
genotyping of the interleukin-1 family
Nucleic acid amplification(method)...
primer-specific extension; diagnostics and therapeutics for restenosis
based on genotyping of the interleukin-1 family
Artery,disease...
restenosis; diagnostics and therapeutics for restenosis based on
genotyping of the interleukin-1 family
Oligonucleotides...
triple helix forming; diagnostics and therapeutics for restenosis based
on genotyping of the interleukin-1 family
CAS REGISTRY NUMBERS:
81295-04-7 81295-06-9 81295-40-1 84522-62-3 86352-30-9 92228-44-9
172306-44-4 diagnostics and therapeutics for restenosis based on
genotyping of the interleukin-1 family
140744-82-7 140960-10-7 141002-08-6 nucleotide sequence; diagnostics and
therapeutics for restenosis based on genotyping of the interleukin-1
family
188135-75-3 188135-76-4 188135-77-5 188135-78-6 188135-79-7
193101-09-6 206073-47-4 224178-70-5 224178-77-2 249263-92-1
249263-94-3 249263-96-5 309983-89-9 309983-90-2 PCR primer;
diagnostics and therapeutics for restenosis based on genotyping of the
interleukin-1 family
244295-37-2 244295-38-3 244295-41-8 244295-42-9 309983-91-3

309983-92-4 309983-93-5 309983-94-6 unclaimed nucleotide sequence;
diagnostics and therapeutics for restenosis based on genotyping of the
interleukin-1 family

4/7/14 (Item 3 from file: 399)
DIALOG(R) File 399:CA SEARCH(R)
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134014046 CA: 134(2)14046s PATENT
Diagnostics and therapeutics for cardiovascular disorders based on
genotyping of the interleukin-1 family
INVENTOR(AUTHOR): Francis, Sheila E.; Crossman, David C.; Duff, Gordon W.
; Kornman, Kenneth S.
LOCATION: USA
ASSIGNEE: Interleukin Genetics, Inc.
PATENT: PCT International ; WO 200072015 A2 DATE: 20001130
APPLICATION: WO 2000US14775 (20000526) *US 320395 (19990526) *US 431352
(19991101)
PAGES: 122 pp. CODEN: PIXXD2 LANGUAGE: English CLASS: G01N-033/53A
DESIGNATED COUNTRIES: AE; AG; AL; AM; AT; AU; AZ; BA; BB; BG; BR; BY; CA;
CH; CN; CR; CU; CZ; DE; DK; DM; DZ; EE; ES; FI; GB; GD; GE; GH; GM; HR; HU;
ID; IL; IN; IS; JP; KE; KG; KP; KR; KZ; LC; LK; LR; LS; LT; LU; LV; MA; MD;
MG; MK; MN; MW; MX; NO; NZ; PL; PT; RO; RU; SD; SE; SG; SI; SK; SL; TJ; TM;
TR; TT; TZ; UA; UG; US; UZ; VN; YU; ZA; ZW; AM; AZ; BY; KG; KZ; MD; RU; TJ;
TM DESIGNATED REGIONAL: GH; GM; KE; LS; MW; MZ; SD; SL; SZ; TZ; UG; ZW; AT
; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LU; MC; NL; PT; SE; BF;
BJ; CF; CG; CI; CM; GA; GN; GW; ML; MR; NE; SN; TD; TG
SECTION:
CA203003 Biochemical Genetics
CA201XXX Pharmacology
CA209XXX Biochemical Methods
CA214XXX Mammalian Pathological Biochemistry
CA215XXX Immunochemistry
IDENTIFIERS: cardiovascular disease interleukin 1 gene family
polymorphism, restenosis interleukin 1 gene family polymorphism, occlusive
disorder interleukin 1 gene family polymorphism, fragile plaque disorder
interleukin 1 gene family polymorphism, genotyping interleukin 1 gene
family cardiovascular disease, RFLP interleukin 1 gene family
cardiovascular disease
DESCRIPTORS:
Nucleic acid hybridization...
allele-specific; diagnostics and therapeutics for cardiovascular
disorders based on genotyping of the interleukin-1 family
Proteins,specific or class...
C-reactive, IL-1 genotypes correlated with; diagnostics and
therapeutics for cardiovascular disorders based on genotyping of the
interleukin-1 family
Artery,disease...
coronary, restenosis; diagnostics and therapeutics for cardiovascular
disorders based on genotyping of the interleukin-1 family
DNA sequence analysis... Drug screening... Genotyping(method)...
Interleukin 1 receptor antagonist... Interleukin 1.alpha.... Interleukin
1.beta.... Interleukin 1... Mutation... Primers(nucleic acid)...
RFLP(restriction fragment length polymorphism)... SSCP(single-strand
conformation polymorphism)... Susceptibility(genetic)... Test kits...
diagnostics and therapeutics for cardiovascular disorders based on
genotyping of the interleukin-1 family

Cardiovascular system...
 disease; diagnostics and therapeutics for cardiovascular disorders
 based on genotyping of the interleukin-1 family

Blood vessel,disease...
 fragile plaque; diagnostics and therapeutics for cardiovascular
 disorders based on genotyping of the interleukin-1 family

Diagnosis...
 genetic; diagnostics and therapeutics for cardiovascular disorders
 based on genotyping of the interleukin-1 family

Gene,animal...
 IL-1RN; diagnostics and therapeutics for cardiovascular disorders based
 on genotyping of the interleukin-1 family

Gene,animal...
 IL1A; diagnostics and therapeutics for cardiovascular disorders based
 on genotyping of the interleukin-1 family

Gene,animal...
 IL1B; diagnostics and therapeutics for cardiovascular disorders based
 on genotyping of the interleukin-1 family

Heart,disease...
 infarction; diagnostics and therapeutics for cardiovascular disorders
 based on genotyping of the interleukin-1 family

Lipoproteins...
 low-d., IL-1 genotypes correlated with; diagnostics and therapeutics
 for cardiovascular disorders based on genotyping of the interleukin-1
 family

Lipoproteins...
 Lp(a), IL-1 genotypes correlated with; diagnostics and therapeutics for
 cardiovascular disorders based on genotyping of the interleukin-1
 family

Angiogenesis...
 neovascularization, IL-1 genotypes correlated with; diagnostics and
 therapeutics for cardiovascular disorders based on genotyping of the
 interleukin-1 family

Blood vessel,disease...
 occlusion; diagnostics and therapeutics for cardiovascular disorders
 based on genotyping of the interleukin-1 family

Genetic methods...
 oligonucleotide ligation assay; diagnostics and therapeutics for
 cardiovascular disorders based on genotyping of the interleukin-1
 family

Periodontium...
 periodontitis; diagnostics and therapeutics for cardiovascular
 disorders based on genotyping of the interleukin-1 family

Nucleic acid amplification(method)...
 primer-specific extension; diagnostics and therapeutics for
 cardiovascular disorders based on genotyping of the interleukin-1
 family

Artery,disease...
 restenosis; diagnostics and therapeutics for cardiovascular disorders
 based on genotyping of the interleukin-1 family

Brain,disease...
 stroke; diagnostics and therapeutics for cardiovascular disorders based
 on genotyping of the interleukin-1 family

CAS REGISTRY NUMBERS:

57-88-5 biological studies, IL-1 genotypes correlated with; diagnostics
 and therapeutics for cardiovascular disorders based on genotyping of
 the interleukin-1 family

81295-04-7 81295-06-9 81295-40-1 81811-56-5 84522-62-3 86352-30-9

92228-44-9 diagnostics and therapeutics for cardiovascular disorders
based on genotyping of the interleukin-1 family
188135-76-4 188135-77-5 188135-78-6 188135-79-7 193101-09-6
193101-10-9 224178-77-2 249263-92-1 249263-94-3 249263-96-5 PCR
primer; diagnostics and therapeutics for cardiovascular disorders based
on genotyping of the interleukin-1 family
244295-37-2 244295-38-3 244295-41-8 244295-42-9 309983-91-3
309983-92-4 309983-93-5 309983-94-6 unclaimed nucleotide sequence;
diagnostics and therapeutics for cardiovascular disorders based on
genotyping of the interleukin-1 family

4/7/15 (Item 4 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)
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133262303 CA: 133(19)262303m PATENT
Human ABC1 transporter and DNA and methods for modulating cholesterol
levels and diagnosing disease
INVENTOR(AUTHOR): Hayden, Michael R.; Wilson, Angela R.; Pimstone, Simon
N.
LOCATION: Can.,
ASSIGNEE: University of British Columbia; Xenon Bioresearch, Inc.
PATENT: PCT International ; WO 200055318 A2 DATE: 20000921
APPLICATION: WO 2000IB532 (20000315) *US PV124702 (19990315) *US PV138048
(19990608) *US PV139600 (19990617) *US PV151977 (19990901)
PAGES: 229 pp. CODEN: PIXXD2 LANGUAGE: English CLASS: C12N-015/12A;
C07K-014/705B; C12N-005/10B; A01K-067/027B; C12N-015/00B; A61K-038/17B;
A61K-048/00B; A61K-038/45B; A61K-031/00B; A61K-031/70B; G01N-033/68B;
C12Q-001/68B; C12N-015/11B DESIGNATED COUNTRIES: AE; AL; AM; AT; AU; AZ;
BA; BB; BG; BR; BY; CA; CH; CN; CR; CU; CZ; DE; DK; DM; DZ; EE; ES; FI; GB;
GD; GE; GH; GM; HR; HU; ID; IL; IN; IS; JP; KE; KG; KP; KR; KZ; LC; LK; LR;
LS; LT; LU; LV; MA; MD; MG; MK; MN; MW; MX; NO; NZ; PL; PT; RO; RU; SD; SE;
SG; SI; SK; SL; TJ; TM; TR; TT; TZ; UA; UG; UZ; VN; YU; ZA; ZW; AM; AZ; BY;
KG; KZ; MD; RU; TJ; TM DESIGNATED REGIONAL: GH; GM; KE; LS; MW; SD; SL; SZ
; TZ; UG; ZW; AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LU; MC;
NL; PT; SE; BF; BJ; CF; CG; CI; CM; GA; GN; GW; ML; MR; NE; SN; TD; TG
SECTION:
CA203003 Biochemical Genetics
CA201XXX Pharmacology
CA206XXX General Biochemistry
CA213XXX Mammalian Biochemistry
IDENTIFIERS: sequence human gene ABC1 transporter cDNA, cholesterol
transport familial HDL deficiency ABC1 gene mutation
DESCRIPTORS:
Transport proteins...
ABC1 (ATP binding cassette-contg. 1); human ABC1 transporter and DNA
and methods for modulating cholesterol levels and diagnosing disease
Genetic vectors...
ABC1 gene-contg.; human ABC1 transporter and DNA and methods for
modulating cholesterol levels and diagnosing disease
RNA splicing...
ABC1 mutation affecting, disease and; human ABC1 transporter and DNA
and methods for modulating cholesterol levels and diagnosing disease
Interleukin 1.beta....
ABC1 transport of; human ABC1 transporter and DNA and methods for
modulating cholesterol levels and diagnosing disease
Gene, animal...

ABC1; human ABC1 transporter and DNA and methods for modulating
 cholesterol levels and diagnosing disease
 Chicken(Gallus domesticus)... Mammal(Mammalia)...
 ABC1/ABC1 mutant-expressing; human ABC1 transporter and DNA and methods
 for modulating cholesterol levels and diagnosing disease
 Brain,disease...
 cerebrovascular; human ABC1 transporter and DNA and methods for
 modulating cholesterol levels and diagnosing disease
 Artery,disease...
 coronary, restenosis; human ABC1 transporter and DNA and methods for
 modulating cholesterol levels and diagnosing disease
 Artery,disease...
 coronary; human ABC1 transporter and DNA and methods for modulating
 cholesterol levels and diagnosing disease
 Mutation...
 deletion, of ABC1 gene, disease and; human ABC1 transporter and DNA and
 methods for modulating cholesterol levels and diagnosing disease
 Cardiovascular system...
 disease; human ABC1 transporter and DNA and methods for modulating
 cholesterol levels and diagnosing disease
 Disease,animal...
 familial HDL deficiency, ABC1 gene mutations and; human ABC1
 transporter and DNA and methods for modulating cholesterol levels and
 diagnosing disease
 cDNA sequences...
 for human ABC1 transporter
 Mutation...
 frameshift, of ABC1 gene, disease and; human ABC1 transporter and DNA
 and methods for modulating cholesterol levels and diagnosing disease
 Lipoproteins...
 high-d., cholesterol; human ABC1 transporter and DNA and methods for
 modulating cholesterol levels and diagnosing disease
 Alzheimer's disease... Neoplasm... Niemann-Pick disease...
 human ABC1 transporter and DNA and methods for modulating cholesterol
 levels and diagnosing disease
 Chromosome...
 human 9, ABC1 gene mapped to; human ABC1 transporter and DNA and
 methods for modulating cholesterol levels and diagnosing disease
 Nervous system...
 Huntington's chorea; human ABC1 transporter and DNA and methods for
 modulating cholesterol levels and diagnosing disease
 Mutation...
 nonsense, of ABC1 gene, disease and; human ABC1 transporter and DNA and
 methods for modulating cholesterol levels and diagnosing disease
 Genetic mapping... Genetic polymorphism... mRNA... Promoter(genetic
 element)... RFLP(restriction fragment length polymorphism)...
 of ABC1 gene; human ABC1 transporter and DNA and methods for modulating
 cholesterol levels and diagnosing disease
 Biological transport...
 of cholesterol; human ABC1 transporter and DNA and methods for
 modulating cholesterol levels and diagnosing disease
 Protein sequences...
 of human ABC1 transporter
 DNA sequences...
 of human ABC1 transporter gene ABC1 exons and flanks
 Blood vessel,disease...
 peripheral; human ABC1 transporter and DNA and methods for modulating
 cholesterol levels and diagnosing disease

Mutation...

substitution, of ABC1 gene, disease and; human ABC1 transporter and DNA and methods for modulating cholesterol levels and diagnosing disease

Disease, animal...

Tangier, ABC1 gene mutations and; human ABC1 transporter and DNA and methods for modulating cholesterol levels and diagnosing disease

Antidiabetic agents...

thiozolidinediones, modulation of ABC1 with; human ABC1 transporter and DNA and methods for modulating cholesterol levels and diagnosing disease

Brain, disease...

X-linked adrenoleukodystrophy; human ABC1 transporter and DNA and methods for modulating cholesterol levels and diagnosing disease

CAS REGISTRY NUMBERS:

296343-83-4 296343-89-0 296787-98-9 amino acid sequence; human ABC1 transporter and DNA and methods for modulating cholesterol levels and diagnosing disease
56-65-5 biological studies, binding/hydrolysis by ABC1 of; human ABC1 transporter and DNA and methods for modulating cholesterol levels and diagnosing disease
57-88-5 biological studies, human ABC1 transporter and DNA and methods for modulating cholesterol levels and diagnosing disease
50-28-2 59-67-6 biological studies, modulation of ABC1 with; human ABC1 transporter and DNA and methods for modulating cholesterol levels and diagnosing disease
943-45-3D derivs., inhibitors, modulation of ABC1 with; human ABC1 transporter and DNA and methods for modulating cholesterol levels and diagnosing disease
506-32-1D derivs., modulation of ABC1 with; human ABC1 transporter and DNA and methods for modulating cholesterol levels and diagnosing disease
9028-35-7 71160-24-2 inhibitors, modulation of ABC1 with; human ABC1 transporter and DNA and methods for modulating cholesterol levels and diagnosing disease
18104-45-5 28822-58-4 37353-31-4 50892-23-4 78111-17-8 98462-03-4 98524-19-7 141436-78-4 142008-29-5 modulation of ABC1 with; human ABC1 transporter and DNA and methods for modulating cholesterol levels and diagnosing disease
80449-06-5 81295-19-4 116155-80-7 131754-84-2 mutation affecting ABC1 cleavage by; human ABC1 transporter and DNA and methods for modulating cholesterol levels and diagnosing disease
233742-58-0 233742-64-8 296343-69-6 296343-70-9 296343-71-0
296343-72-1 296343-73-2 296343-74-3 296343-75-4 296343-76-5
296343-77-6 296343-80-1 296343-81-2 296343-82-3 296343-84-5
296343-85-6 296343-86-7 296343-87-8 296343-88-9 296343-90-3
296363-75-2 nucleotide sequence; human ABC1 transporter and DNA and methods for modulating cholesterol levels and diagnosing disease
296354-50-2 296354-51-3 296354-52-4 296354-53-5 296354-54-6
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296355-10-7 296355-11-8 296355-12-9 296355-13-0 296355-14-1
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296356-00-8 296356-01-9 296356-02-0 296356-03-1 296356-04-2
296356-05-3 296356-06-4 296356-07-5 296356-08-6 296356-09-7
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296356-80-4 296356-81-5 296356-82-6 296356-83-7 296356-84-8
296356-85-9 296356-86-0 296356-87-1 296356-88-2 296356-89-3
296356-90-6 296356-91-7 unclaimed nucleotide sequence; human ABC1
transporter and DNA and methods for modulating cholesterol levels and
diagnosing disease
296237-28-0 296237-29-1 296237-30-4 296237-31-5 296237-32-6
296237-33-7 296237-34-8 296237-35-9 296237-36-0 296237-37-1
296237-38-2 296237-39-3 296237-40-6 296237-41-7 296237-42-8
296237-43-9 unclaimed sequence; human ABC1 transporter and DNA and
methods for modulating cholesterol levels and diagnosing disease
?
<-----User Break----->
!

? <-----User Break----->

>>>Unrecognizable Command
? s l2 and (ACE or angiotensin or angiotensinogen)

34750 L2
76049 ACE
342370 ANGIOTENSIN
13483 ANGIOTENSINOGEN

```

S5 38 L2 AND (ACE OR ANGIOTENSIN OR ANGIOTENSINOGEN)
? s s2 and (ace or angiotensin or angiotensinogen)

584 S2
76049 ACE
342370 ANGIOTENSIN
13483 ANGIOTENSINOGEN

S6 260 S2 AND (ACE OR ANGIOTENSIN OR ANGIOTENSINOGEN)
? rd s6

...examined 50 records (50)
...examined 50 records (100)
...examined 50 records (150)
...examined 50 records (200)
...examined 50 records (250)
...completed examining records
S7 116 RD S6 (unique items)
? t s7/6/1-116

7/6/1 (Item 1 from file: 5)
13066485 BIOSIS NO.: 200100273634
Effect of **ACE** inhibitors on angiographic **restenosis** after
coronary stenting (PARIS): A randomised, double-blind, placebo-controlled
trial.
2001

7/6/2 (Item 2 from file: 5)
12994678 BIOSIS NO.: 200100201827
ACE D/I polymorphism and incidence of post-PTCA
restenosis: A prospective, angiography-based evaluation.
2001

7/6/3 (Item 3 from file: 5)
12970606 BIOSIS NO.: 200100177755
Angiotensin converting enzyme DD genotype affects the changes of
plasma plasminogen activator inhibitor-1 activity after primary
percutaneous transluminal coronary angioplasty in acute myocardial
infarction patients.
2000

7/6/4 (Item 4 from file: 5)
12947456 BIOSIS NO.: 200100154605
Angiotensin-converting enzyme insertion/deletion **polymorphism**
and **restenosis** after coronary stenting: A meta-analysis.
2001

7/6/5 (Item 5 from file: 5)
12947438 BIOSIS NO.: 200100154587
Insertion/deletion **polymorphism** of **angiotensin** I-converting
enzyme gene and risk of **restenosis** after directional coronary
atherectomy followed by stent implantation.
2001

7/6/6 (Item 6 from file: 5)
12763686 BIOSIS NO.: 200000517309
The insertion/deletion **polymorphism** of the **angiotensin I**
converting enzyme is not associated with in-stent **restenosis** in
diabetic patients.
2000

7/6/7 (Item 7 from file: 5)
12763672 BIOSIS NO.: 200000517295
Insertion/deletion **polymorphism** of **angiotensin**-converting
enzyme gene and risk of **restenosis** after directional coronary
atherectomy followed by stent implantation.
2000

7/6/8 (Item 8 from file: 5)
12642892 BIOSIS NO.: 200000396394
The **angiotensinogen** gene 235T variant is associated with an increased
risk of **restenosis** after percutaneous transluminal coronary
angioplasty.
2000

7/6/9 (Item 9 from file: 5)
12620272 BIOSIS NO.: 200000373774
Insertion/deletion **polymorphism** of the **angiotensin I**-converting
enzyme gene is not associated with **restenosis** after coronary stent
placement.
2000

7/6/10 (Item 10 from file: 5)
12554135 BIOSIS NO.: 200000307637
Role of conventional risk factors and the A/C **polymorphism** of the
angiotensin-II type 1 receptor gene in post-menopausal women
treated with coronary stenting.
2000

7/6/11 (Item 11 from file: 5)
12554134 BIOSIS NO.: 200000307636
I/D **polymorphism** of the **ACE** gene as a marker of different
cardiovascular diseases. Relations with hypertension, coronary
atherosclerosis and **restenosis** after coronary stent implantation.
2000

7/6/12 (Item 12 from file: 5)
12403842 BIOSIS NO.: 200000157344
Polymorphisms of the **angiotensin** converting enzyme and the
angiotensin II Type 1 receptor genes in in-stent **restenosis**.
Is there a synergism?
2000

7/6/13 (Item 13 from file: 5)

12403841 BIOSIS NO.: 200000157343

Angiotensin converting enzyme gene **polymorphism** and **restenosis** rate after coronary stenting.

2000

7/6/14 (Item 14 from file: 5)

12284411 BIOSIS NO.: 200000042278

The **angiotensin** converting enzyme intron 16 **polymorphism** in patients with hereditary venous thromboembolism.

1999

7/6/15 (Item 15 from file: 5)

12281187 BIOSIS NO.: 200000034689

Genetic risk factors for post-PTCA **restenosis**: A comprehensive analysis of multiple candidate genes.

1999

7/6/16 (Item 16 from file: 5)

12268762 BIOSIS NO.: 200000022264

The effect of quinapril on prevention of **restenosis** after coronary stenting were influenced by the insertion/deletion **polymorphism** in the **angiotensin** I-converting enzyme gene.

1999

7/6/17 (Item 17 from file: 5)

12256651 BIOSIS NO.: 200000010153

Pharmacogenetic analysis of the effect of **angiotensin**-converting enzyme inhibitor on **restenosis** after percutaneous transluminal coronary angioplasty.

1999

7/6/18 (Item 18 from file: 5)

12219937 BIOSIS NO.: 199900514786

Insertion/deletion **polymorphism** of the **angiotensin**-converting enzyme and **restenosis** after coronary stent placement.

1998

7/6/19 (Item 19 from file: 5)

12211510 BIOSIS NO.: 199900506359

Not the **ACE** gene **polymorphism**, but the E-selectin gene **polymorphism** helps to predict **restenosis** after coronary angioplasty.

1998

7/6/20 (Item 20 from file: 5)

12199877 BIOSIS NO.: 199900494726

Impact of conventional risk factors and the **angiotensin**-converting enzyme in women treated with coronary stent placement.

1999

7/6/21 (Item 21 from file: 5)
12192450 BIOSIS NO.: 199900487299
Insertion/deletion **polymorphism** of the **angiotensin** I-converting
enzyme gene and 1-year angiographic and clinical outcome after coronary
stent placement.
1999

7/6/22 (Item 22 from file: 5)
12192449 BIOSIS NO.: 199900487295
Long-term clinical outcome of coronary stenting: Role of the D **allele**
of the **ACE** gene, and importance of the angiographic pattern of
restenosis.
1999

7/6/23 (Item 23 from file: 5)
12192446 BIOSIS NO.: 199900487295
The PI A1/A2 **polymorphism** of the platelet glycoprotein IIIa is not
associated with coronary stent **restenosis**.
1999

7/6/24 (Item 24 from file: 5)
12175417 BIOSIS NO.: 199900470266
Angiotensin II receptor subtype gene expression after stent
implantation in a pig model.
1999

7/6/25 (Item 25 from file: 5)
11743780 BIOSIS NO.: 199800524476
Effect of **angiotensin**-converting enzyme inhibitor in preventing
restenosis after percutaneous transluminal coronary angioplasty.
1998

7/6/26 (Item 26 from file: 5)
11743115 BIOSIS NO.: 199800523811
Polymorphism of **angiotensin** I-converting enzyme and risk
coronary stent **restenosis**.
1998

7/6/27 (Item 27 from file: 5)
11743113 BIOSIS NO.: 199800523809
The deletion **allele** of insertion/deletion **polymorphism** of the
angiotensin-converting enzyme gene: A real marker of genetic
predisposition for stent **restenosis**.
1998

7/6/28 (Item 28 from file: 5)
11741680 BIOSIS NO.: 199800522376
Significance of **angiotensin** I-converting enzyme gene
polymorphism as risk factor for stent **restenosis**.
1998

7/6/29 (Item 29 from file: 5)
11710520 BIOSIS NO.: 199800492251
Association between the **ACE** genotype and coronary artery disease:
Insights from studies on **restenosis**, vasomotion and thrombosis.
1998

7/6/30 (Item 30 from file: 5)
11368199 BIOSIS NO.: 199800149531
The **D allele** of the **angiotensin** I converting enzyme is
associated with diffuse in-stent **restenosis**.
1998

7/6/31 (Item 31 from file: 5)
11330428 BIOSIS NO.: 199800111760
Insertion/deletion **polymorphism** and plasma levels of
Angiotensin I Converting Enzyme in coronary stent **restenosis**.
1997

7/6/32 (Item 32 from file: 5)
11308348 BIOSIS NO.: 199800089680
Dual determination of **angiotensin**-converting enzyme and
angiotensin-II type 1 receptor genotypes as predictors of
restenosis after coronary angioplasty.
1998

7/6/33 (Item 33 from file: 5)
11308302 BIOSIS NO.: 199800089634
Plasma activity and insertion/deletion **polymorphism** of
angiotensin I-converting enzyme: A major risk factor and a marker
of risk for coronary stent **restenosis**.
1998

7/6/34 (Item 34 from file: 5)
11237775 BIOSIS NO.: 199800019107
The I/D **polymorphism** of the **angiotensin** converting enzyme gene
and in-stent **restenosis** in diabetic and non-diabetic patients.
1997

7/6/35 (Item 35 from file: 5)
11237451 BIOSIS NO.: 199800018783
Angiotensin-converting enzyme insertion/deletion **polymorphism**
and **restenosis** after directional coronary atherectomy.
1997

7/6/36 (Item 36 from file: 5)
11234326 BIOSIS NO.: 199800015658
The pattern (focal/diffuse) of angiographic in-stent **restenosis** is
associated to the I/D **polymorphism** of the **angiotensin**
converting enzyme gene.

1997

7/6/37 (Item 37 from file: 5)
11216629 BIOSIS NO.: 199799837774
Gene **polymorphism** of **angiotensin** II type 1 receptor and
angiotensinogen in patients with coronary artery disease.
1997

7/6/38 (Item 38 from file: 5)
11216563 BIOSIS NO.: 199799837708
Angiotensin-converting enzyme insertion/deletion **polymorphism**
and **restenosis** after coronary intervention.
1997

7/6/39 (Item 39 from file: 5)
11175614 BIOSIS NO.: 199799796759
Renin-**angiotensin** system: Genes to beside.
1997

7/6/40 (Item 40 from file: 5)
11158418 BIOSIS NO.: 199799779563
Plasma **angiotensin**-converting enzyme and D/D genotype of the
ACE gene: Telltales and deceptions.
1997

7/6/41 (Item 41 from file: 5)
11157587 BIOSIS NO.: 199799778732
Influence of the **angiotensin**-converting-enzyme gene
polymorphism on the **restenosis** rate after interventional
therapy of coronary artery disease.
1997

7/6/42 (Item 42 from file: 5)
11021825 BIOSIS NO.: 199799642970
D **allele** of the **angiotensin** I-converting enzyme is a major risk
factor for **restenosis** after coronary stenting.
1997

7/6/43 (Item 43 from file: 5)
10893077 BIOSIS NO.: 199799514222
The expression of **angiotensin**-I converting enzyme in human
atherosclerotic plaques is not related to the deletion/insertion
polymorphism but to the risk of **restenosis** after coronary
interventions.
1997

7/6/44 (Item 44 from file: 5)
10825937 BIOSIS NO.: 199799447082
The absence of D **allele** of the **ACE** ID genotype prevents
restenosis after coronary stenting: A quantitative angiographic

study.
1997

7/6/45 (Item 45 from file: 5)
10660992 BIOSIS NO.: 199699282137
Plasma **angiotensin**-converting enzyme levels, and insertion/deletion
polymorphism of the enzyme, as predictors of **restenosis** after
elective coronary stenting.
1996

7/6/46 (Item 46 from file: 5)
10525532 BIOSIS NO.: 199699146677
Apolipoprotein E **polymorphism** does not predict risk of
restenosis after coronary angioplasty.
1996

7/6/47 (Item 47 from file: 5)
10413859 BIOSIS NO.: 199699035004
Angiotensin-converting enzyme insertion/deletion **polymorphism**
and **restenosis** after coronary angioplasty in unstable angina
pectoris.
1996

7/6/48 (Item 48 from file: 5)
10126875 BIOSIS NO.: 199698581793
Angiotensin converting enzyme and apolipoprotein E genotypes interact
in **restenosis** after coronary angioplasty.
1995

7/6/49 (Item 49 from file: 5)
10126712 BIOSIS NO.: 199698581630
Relation between the deletion **polymorphism** of the **angiotensin**
-converting enzyme gene and late luminal narrowing after coronary
angioplasty.
1995

7/6/50 (Item 50 from file: 5)
10126656 BIOSIS NO.: 199698581574
Polymorphism in the **angiotensin** I-converting enzyme and
apolipoprotein E genes and **restenosis** after coronary angioplasty in
men.
1995

7/6/51 (Item 51 from file: 5)
10088856 BIOSIS NO.: 199598543774
Angiotensin-converting enzyme and apolipoprotein E genotypes and
restenosis after coronary angioplasty.
1995

7/6/52 (Item 52 from file: 5)

09916666 BIOSIS NO.: 199598371584

Angiotensin-I converting enzyme genotype DD is a risk factor for coronary artery disease.
1995

7/6/53 (Item 53 from file: 5)

09904591 BIOSIS NO.: 199598359509

Angiotensin-converting enzyme gene **polymorphism** and **restenosis** after PTCA.
1995

7/6/54 (Item 54 from file: 5)

09854362 BIOSIS NO.: 199598309280

Enhanced predictability of myocardial infarction in Japanese by combined genotype analysis.
1995

7/6/55 (Item 55 from file: 5)

09808685 BIOSIS NO.: 199598263603

Insertion/deletion **polymorphism** in the **angiotensin**-converting enzyme gene and risk of **restenosis** after coronary angioplasty.
1995

7/6/56 (Item 56 from file: 5)

09775952 BIOSIS NO.: 199598230870

Molecular variant of **angiotensinogen** gene is associated with coronary atherosclerosis.
1995

7/6/57 (Item 57 from file: 5)

09704462 BIOSIS NO.: 199598159380

Does Insertion/Deletion **Polymorphism** of the **Angiotensin** Converting Enzyme Influence the Occurrence of **Restenosis** After Percutaneous Transluminal Coronary Angioplasty?
1995

7/6/58 (Item 58 from file: 5)

09633694 BIOSIS NO.: 199598088612

DD Genotype of the **Angiotensin**-Converting Enzyme Gene Is a Risk Factor for Left Ventricular Hypertrophy.
1994

7/6/59 (Item 59 from file: 5)

09567015 BIOSIS NO.: 199598021933

Angiotensin converting enzyme genotype DD is a potent risk factor for coronary artery disease and **restenosis** post percutaneous transluminal angioplasty.
1994

7/6/60 (Item 60 from file: 5)

09450307 BIOSIS NO.: 199497458677
Cell biology and genetics of **angiotensin** in cardiovascular disease.
1994

7/6/61 (Item 1 from file: 34)
09901385 Genuine Article#: 464BK Number of References: 16
Title: Is there a role of **angiotensin**-converting enzyme gene
polymorphism in the failure of arteriovenous femoral shunts for
hemodialysis? (ABSTRACT AVAILABLE)
Publication date: 20010700

7/6/62 (Item 2 from file: 34)
09493313 Genuine Article#: 413XJ Number of References: 31
Title: Ribozyme-mediated inhibition of rat leukocyte-type 12-lipoxygenase
prevents intimal hyperplasia in balloon-injured rat carotid arteries (
ABSTRACT AVAILABLE)
Publication date: 20010313

7/6/63 (Item 3 from file: 34)
09481152 Genuine Article#: 408KN Number of References: 56
Title: Polymorphisms of the renin-**angiotensin** system in patients with
multifocal renal arterial fibromuscular dysplasia (ABSTRACT AVAILABLE)
Publication date: 20010300

7/6/64 (Item 4 from file: 34)
09433771 Genuine Article#: 405VU Number of References: 32
Title: Endothelium-independent conversion of **angiotensin** I by
vascular smooth muscle cells (ABSTRACT AVAILABLE)
Publication date: 20010200

7/6/65 (Item 5 from file: 34)
09259934 Genuine Article#: 384FE Number of References: 39
Title: **ACE**-gene **polymorphism** is associated with the development
of allograft vascular disease in heart transplant recipients (ABSTRACT
AVAILABLE)
Publication date: 20001200

7/6/66 (Item 6 from file: 34)
09259141 Genuine Article#: 385PR Number of References: 20
Title: Relation between the insertion/deletion **polymorphism** of the
angiotensin I converting enzyme gene and **restenosis** after
coronary stenting (ABSTRACT AVAILABLE)
Publication date: 20001200

7/6/67 (Item 7 from file: 34)
09014018 Genuine Article#: 356MU Number of References: 18
Title: Relationship between plasma **ACE** activity and the proliferative
healing process in coronary vessel injury after coronary stenting
Publication date: 20000900

7/6/68 (Item 8 from file: 34)
08537163 Genuine Article#: 297RX Number of References: 24
Title: Searching for a better assessment of the individual coronary risk
profile - The role of **angiotensin**-converting enzyme,
angiotensin II type 1 receptor and **angiotensinogen** gene
polymorphisms (ABSTRACT AVAILABLE)
Publication date: 20000400

7/6/69 (Item 9 from file: 34)
08503639 Genuine Article#: 293UK Number of References: 125
Title: Genetic risk factors and **restenosis** after percutaneous
coronary interventions (ABSTRACT AVAILABLE)
Publication date: 20000200

7/6/70 (Item 10 from file: 34)
08503636 Genuine Article#: 293UK Number of References: 77
Title: Genetic risk faktors for myocardial infarction (ABSTRACT AVAILABLE)
Publication date: 20000200

7/6/71 (Item 11 from file: 34)
08068159 Genuine Article#: 233CM Number of References: 0
Title: **Angiotensin** converting enzyme (I/D) **polymorphism** (
ACE-I/D), apolipoprotein E (ApoE) genotype and **restenosis**
after peripheral angioplasty.
Publication date: 19990700

7/6/72 (Item 12 from file: 34)
07846756 Genuine Article#: 215LK Number of References: 10
Title: Coronary stent implantation and **restenosis**. Can be predicted
by examining the genes?
Publication date: 19990700

7/6/73 (Item 13 from file: 34)
07846755 Genuine Article#: 215LK Number of References: 20
Title: D/D **polymorphism** of the **ace** gene might be a risk factor
for in-stent **restenosis** (ABSTRACT AVAILABLE)
Publication date: 19990700

7/6/74 (Item 14 from file: 34)
07174531 Genuine Article#: 131TZ Number of References: 0
Title: The 235T **allele** of the **angiotensinogen** gene and the risk
for **restenosis** after first and second coronary angioplasty
Publication date: 19981000

7/6/75 (Item 15 from file: 34)
06512314 Genuine Article#: YY084 Number of References: 50
Title: Donor **ACE** gene **polymorphism**: a genetic risk factor for
accelerated coronary sclerosis following cardiac transplantation (
ABSTRACT AVAILABLE)
Publication date: 19980200

7/6/76 (Item 16 from file: 34)
06169254 Genuine Article#: XZ516 Number of References: 81
Title: Renin-**angiotensin** system: Genes to bedside (ABSTRACT
AVAILABLE)
Publication date: 19970900

7/6/77 (Item 17 from file: 34)
06053694 Genuine Article#: XE898 Number of References: 0
Title: **Angiotensin**-converting enzyme gene **polymorphism** and risk
of **restenosis** after coronary stenting
Publication date: 19970600

7/6/78 (Item 18 from file: 34)
05912621 Genuine Article#: XF079 Number of References: 20
Title: Bail-out stent implantation of a muscle bridging in the left
anterior descending artery after post-interventional dissection (ABSTRACT AVAILABLE)
Publication date: 19970500

7/6/79 (Item 19 from file: 34)
05821778 Genuine Article#: XA009 Number of References: 81
Title: Hypothesis: An **angiotensin** converting enzyme genotype, present
in one in three Caucasians, is associated with an increased mortality
rate (ABSTRACT AVAILABLE)
Publication date: 19960100

7/6/80 (Item 20 from file: 34)
05813166 Genuine Article#: WZ337 Number of References: 37
Title: Impact of molecular biology on cardiovascular medicine (ABSTRACT
AVAILABLE)
Publication date: 19970400

7/6/81 (Item 21 from file: 34)
05730281 Genuine Article#: WT791 Number of References: 10
Title: High incidence of **angiotensin** I converting enzyme genotype II
in Kawasaki disease patients with coronary aneurysm (ABSTRACT
AVAILABLE)
Publication date: 19970400

7/6/82 (Item 22 from file: 34)
05615487 Genuine Article#: WK890 Number of References: 31
Title: Non-invasive coronary angiography by electron beam tomography:
Methods and clinical evaluation in the follow-up after PTCA (ABSTRACT
AVAILABLE)
Publication date: 19970200

7/6/83 (Item 23 from file: 34)
05610641 Genuine Article#: WK743 Number of References: 206
Title: Toward molecular strategies for heart disease - Past, present,
future (ABSTRACT AVAILABLE)

Publication date: 19970200

7/6/84 (Item 24 from file: 34)
05390275 Genuine Article#: VV335 Number of References: 87
Title: WHAT CAN **ANGIOTENSIN** ANTAGONISTS DO THAT CONVERTING-ENZYME
INHIBITION CANT - THE CASE OF POST-ANGIOPLASTIC **RESTENOSIS** (
Abstract Available)

7/6/85 (Item 25 from file: 34)
05210660 Genuine Article#: VH619 Number of References: 6
Title: **ACE POLYMORPHISM**, A GENETIC PREDICTOR OF OCCLUSION AFTER
CORONARY ANGIOPLASTY

7/6/86 (Item 26 from file: 34)
05069873 Genuine Article#: TK257 Number of References: 23
Title: A VARIANT OF HUMAN PARAOXONASE ARYLESTERASE (HUMPONA) GENE IS A RISK
FACTOR FOR CORONARY-ARTERY DISEASE (Abstract Available)

7/6/87 (Item 27 from file: 34)
05019997 Genuine Article#: UZ529 Number of References: 43
Title: INSERTION/DELETION **POLYMORPHISM** IN THE **ANGIOTENSIN**
-CONVERTING ENZYME GENE AND RISK OF AND PROGNOSIS AFTER
MYOCARDIAL-INFARCTION (Abstract Available)

7/6/88 (Item 28 from file: 34)
04964043 Genuine Article#: UV871 Number of References: 166
Title: THROMBOSIS IN ISCHEMIC-HEART-DISEASE (Abstract Available)

7/6/89 (Item 29 from file: 34)
04798958 Genuine Article#: UH635 Number of References: 135
Title: **ANGIOTENSIN** RECEPTORS AND THEIR THERAPEUTIC IMPLICATIONS (
Abstract Available)

7/6/90 (Item 30 from file: 34)
03966914 Genuine Article#: QW013 Number of References: 0
Title: THE MOLECULAR AND CELLULAR BIOLOGY OF HEART-FAILURE (Abstract
Available)

7/6/91 (Item 31 from file: 34)
03747452 Genuine Article#: QC653 Number of References: 71
Title: PHARMACOKINETICS OF ADENOVIRAL VECTOR-MEDIATED GENE DELIVERY TO
VASCULAR SMOOTH-MUSCLE CELLS - MODULATION BY POLOXAMER-407 AND
IMPLICATIONS FOR CARDIOVASCULAR GENE-THERAPY (Abstract Available)

7/6/92 (Item 32 from file: 34)
03487243 Genuine Article#: PH234 Number of References: 30
Title: EFFECTS OF **ACE**-INHIBITORS ON CORONARY ATHEROSCLEROSIS AND
RESTENOSIS

7/6/93 (Item 33 from file: 34)
03367612 Genuine Article#: PA636 Number of References: 4
Title: ARE POLYMORPHISMS IN THE **ACE** GENE A POTENT GENETIC RISK FACTOR
FOR **RESTENOSIS**

7/6/94 (Item 34 from file: 34)
02871146 Genuine Article#: ML145 Number of References: 5
Title: A POTENT GENETIC RISK FACTOR FOR **RESTENOSIS**

7/6/95 (Item 35 from file: 34)
02869323 Genuine Article#: ML149 Number of References: 251
Title: THE TRANSITION FROM EXPERIMENTAL TO CLINICAL-PHARMACOLOGY - THE
RENIN-**ANGIOTENSIN** PARADIGM (Abstract Available)

7/6/96 (Item 36 from file: 34)
02799510 Genuine Article#: ME801 Number of References: 54
Title: RENIN-**ANGIOTENSIN** SYSTEM GENES AS CANDIDATE GENES IN
CARDIOVASCULAR-DISEASES (Abstract Available)

7/6/97 (Item 37 from file: 34)
02799164 Genuine Article#: ME822 Number of References: 9
Title: **ANGIOTENSIN**-CONVERTING ENZYME **POLYMORPHISM** IN
HYPERTROPHIC CARDIOMYOPATHY AND SUDDEN CARDIAC DEATH (Abstract
Available)

7/6/98 (Item 38 from file: 34)
02799161 Genuine Article#: ME822 Number of References: 13
Title: **ANGIOTENSIN**-CONVERTING ENZYME-DD GENOTYPE IN PATIENTS WITH
ISCHEMIC OR IDIOPATHIC DILATED CARDIOMYOPATHY (Abstract Available)

7/6/99 (Item 39 from file: 34)
02455203 Genuine Article#: LC377 Number of References: 48
Title: INTRARENAL LOCALIZATION OF **ANGIOTENSIN**-II TYPE-1 RECEPTOR
MESSENGER-RNA IN THE RAT (Abstract Available)

7/6/100 (Item 40 from file: 34)
02387016 Genuine Article#: KY052 Number of References: 48
Title: DIFFERENTIAL-EFFECTS OF RENIN-**ANGIOTENSIN** SYSTEM BLOCKADE ON
ATHEROGENESIS IN CHOLESTEROL-FED RABBITS (Abstract Available)

7/6/101 (Item 1 from file: 65)
02926947 INSIDE CONFERENCE ITEM ID: CN030875551
Coronary Stent **Restenosis**: Insertion/deletion **Polymorphism** and
Plasma Levels of **Angiotensin** I Converting Enzyme
CONFERENCE: Associazione Genetica Italiana-Convegno scientifico; 43 (199709)

7/6/102 (Item 1 from file: 73)

10727690 EMBASE No: 2000137046

The insertion/deletion **polymorphism** of the **angiotensin**
-converting enzyme gene and the risk for **restenosis** after PTCA
2000

7/6/103 (Item 2 from file: 73)

07401143 EMBASE No: 1998313401

Association between the **ACE** genotype and coronary artery disease
1998

7/6/104 (Item 3 from file: 73)

06928427 EMBASE No: 1997212906

Genetics of interventional cardiology: Old principles, new frontiers
1997

7/6/105 (Item 4 from file: 73)

06568306 EMBASE No: 1996229855

Fibrinolysis and risk of coronary artery disease
1996

7/6/106 (Item 5 from file: 73)

06372788 EMBASE No: 1996036519

Angiotensin I converting enzyme gene **polymorphism** and
coronary heart disease
1995

7/6/107 (Item 1 from file: 94)

04348252 JICST ACCESSION NUMBER: 99A0746604 FILE SEGMENT: JICST-E

Angiotensin II type I receptor and **angiotensinogen** gene
polymorphisms in patients with coronary artery disease., 1999

7/6/108 (Item 2 from file: 94)

03563160 JICST ACCESSION NUMBER: 98A0404211 FILE SEGMENT: JICST-E

Deletion **polymorphism** of **angiotensin** I-converting enzyme gene
associates with increased risk for acute myocardial infarction., 1998

7/6/109 (Item 1 from file: 98)

03766798 H.W. WILSON RECORD NUMBER: BGSI98016798 (USE FORMAT 7 FOR
FULLTEXT)

The physiology of parathyroid hormone-related protein: an emerging role as
a developmental factor.

WORD COUNT: 12247

'98 (19980000)

7/6/110 (Item 2 from file: 98)

03546695 H.W. WILSON RECORD NUMBER: BGSI97046695 (USE FORMAT 7 FOR
FULLTEXT)

Cellular and molecular mechanisms of pulmonary vascular remodeling.

WORD COUNT: 25314

'97 (19970000)

7/6/111 (Item 3 from file: 98)
03536366 H.W. WILSON RECORD NUMBER: BGS197036366
Genetic make-up predicts success of coronary stenting.
July 5 '97 (19970705)

7/6/112 (Item 1 from file: 144)
14406734 PASCAL No.: 00-0062501
ACE gene polymorphism and coronary restenosis
Biological determinants of atherosclerosis and **restenosis**
1999

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7/6/113 (Item 2 from file: 144)
13475066 PASCAL No.: 98-0172121
EPIDEMIOLOGIE DE LA MALADIE CORONAIRE : RECHERCHE DES DETERMINANTS
GENETIQUES DE LA VASOMOTRICITE CORONAIRE ET DE LA RESTENOSE
(CORONARY DISEASE EPIDEMIOLOGY : CORONARY AND **RESTENOSIS** GENETIC
RISK FACTORS DETERMINATION) 1997-12; 1997

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7/6/114 (Item 1 from file: 155)
10495287 20135076 PMID: 10670180
I/D **polymorphism** of the **ACE** gene and A1166C of the AT1R gene
as risk factors for **restenosis** after coronary angioplasty]
Polimorfismo I/D del gene **ACE** e A1166C del gene AT1R quali fattori
di rischio di restenosi dopo angioplastica coronarica.
Dec 1999

7/6/115 (Item 2 from file: 155)
10257485 99368525 PMID: 10439670
D/D genotype of the gene for **angiotensin** converting enzyme as a
risk factor for post-stent coronary **restenosis**]
El genotipo D/D del gen de la enzima conversiva de la angiotensina como
factor de riesgo de reestenosis post-stent coronario.
Jul 1999

7/6/116 (Item 1 from file: 399)
DIALOG(R)File 399:(c) 2001 AMERICAN CHEMICAL SOCIETY. All rts. reserv.

A potent genetic risk factor for restenosis
?
PLEASE ENTER A COMMAND OR BE LOGGED OFF IN 5 MINUTES
? t s7/7/18, 19, 22, 28, 77

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7/7/18 (Item 18 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
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Protective role against **restenosis** from an **interleukin-1**
receptor antagonist gene **polymorphism** in patients treated with
coronary stenting.
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ABSTRACT: OBJECTIVES: To test the hypothesis that **interleukin-1**
receptor antagonist (**IL-1ra**) gene **polymorphism** contributes to
the risk of **restenosis** after coronary stenting. BACKGROUND:
Cytokines of the **interleukin-1** (**IL-1**) family play a central
role in regulating inflammatory responses. There is strong evidence to
support **IL-1** involvement in smooth muscle cell mitogenesis and
extracellular matrix metabolism. The **IL-1ra** counters the
proinflammatory effects of **IL-1**. The **interleukin-1** receptor
antagonist gene (**IL-1RN**) contains several well-characterized
polymorphic sites that correlate with altered **IL-1ra** levels.
METHODS: In 1,850 consecutive patients, clinical and angiographic
measures of **restenosis** were evaluated over one year after coronary
stent placement. Repeat angiography at six months was achieved in 84% of
the patients; angiographic **restenosis** was defined $\geq 50\%$
diameter stenosis at follow-up. Genotyping for an exon 2
polymorphism (+2,018) of **IL-1RN** (alleles 1 and 2) was based
on a polymerase chain reaction technique. RESULTS: **Allele 2**
frequency was 0.28. Carriers of **allele 2** had a significantly lower
risk for angiographic **restenosis**, odds ratio (OR) of 0.78 (95%
confidence interval, 0.63 to 0.97) and target vessel revascularization,
OR of 0.73 (0.58 to 0.92) compared with noncarriers. Risk reduction was
especially significant in patients <60 years (n = 696), with OR of 0.63
(0.43 to 0.91) for angiographic **restenosis** and 0.55 (0.39 to 0.78)
for target vessel revascularization. CONCLUSIONS: **Allele 2** of the
IL-1ra gene was associated with a lower incidence of
restenosis after coronary stenting, particularly in younger
patients. This finding supports a role of inflammation in the development
of **restenosis** after stent placement.

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Protection against **restenosis** from an **interleukin-1** receptor
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stenting.
AUTHOR: Kastrati A; Koch W(a); Berger P B; Mehilli J(a); Stephenson K; von
Beckerath N(a); Boettiger C(a); Schoemig A(a); diGiovine F; Duff G W
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Genetic risk factors for post-PTCA **restenosis**: A comprehensive
analysis of multiple candidate genes.
AUTHOR: Zee Robert Y I(a); Fernandez-Ortiz Antonio; Macaya Carlos; Pintor
Emilio; Fernandez-Cruz Arturo; Lindpaintner Klaus
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USA
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02872745 Genuine Article#: ML674 Number of References: 104
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Author(s): MARCUS AJ; HAJJAR DP
Corporate Source: CORNELL UNIV,MED CTR,COLL MED,DEPT BIOCHEM,1300YORK
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Title: ACTIVATED ALPHA-2-MACROGLOBULIN AND TRANSFORMING
GROWTH-FACTOR-BETA-1 INDUCE A SYNERGISTIC SMOOTH-MUSCLE CELL
PROLIFERATIVE RESPONSE
Author(s): STOFFER GA; LAMARRE J; GONIAS SL; OWENS GK
Corporate Source: UNIV VIRGINIA,SCH MED,DEPT MOLEC PHYSIOL & CELLULAR

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Journal: JOURNAL OF BIOLOGICAL CHEMISTRY, 1993, V268, N24 (AUG 25), P
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Abstract: The role that soluble binding proteins might play in regulating transforming growth factor-beta1 (TGF-beta1)-induced growth of smooth muscle cells (SMC) is unknown. Alpha2-macroglobulin (alpha2M) is the major plasma binding protein for TGF-beta. Reaction of alpha2M with methylamine (alpha2M-MA) forms 'activated' alpha2M which binds TGF-beta and specific cell surface receptors. The objectives of these studies were to determine whether native alpha2M or alpha2M-MA influences growth responses of cultured rat aortic SMC to TGF-beta1. Results demonstrated that native alpha2M was not mitogenic. Treatment with alpha2M-MA or TGF-beta1 stimulated a 3- or 3.5-fold increase in [H-3]thymidine incorporation, respectively. Cotreatment with TGF-beta1 and alpha2M-MA resulted in a 70-fold increase in [H-3]thymidine incorporation. SMC bound alpha2M-MA in a specific and saturable manner and expressed alpha2M receptor/low density lipoprotein receptor-related protein (LRP). A modified form of alpha2M-MA (alpha2M-MA-cis-dichlorodiammine platinum), which bound TGF-beta1 but did not bind alpha2M receptors, failed to enhance TGF-beta1-induced growth. In summary, results demonstrated that alpha2M-MA enhanced TGF-beta1-induced growth responses and that this effect was dependent on alpha2M-MA binding to alpha2M receptor/LRP.

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A 25-year-old with severe coronary artery disease
Ward M.R.; Herity N.A.; Lee D.P.; Yeung A.C.
Dr. A.C. Yeung, Division of Cardiovascular Medicine, Stanford University
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03766792 H.W. WILSON RECORD NUMBER: BGS198016792 (THIS IS THE FULLTEXT)
Normal and abnormal consequences of apoptosis in the human heart.
James, Thomas N
Annual Review of Physiology (Annu Rev Physiol) v. 60 ('98) p. 309-25
LANGUAGE: English
COUNTRY OF PUBLICATION: United States

WORD COUNT: 8534

ABSTRACT: Knowledge about apoptosis has become essential for understanding many aspects of cardiac structure and function. In the human heart there are major periods of morphogenesis that begin only after birth, and some of these processes recur intermittently for many years. Although the exact mechanisms by which these events are initiated or terminated remain poorly understood, it is clear that their benefits may be mirrored in destructive effects. In this review, selected examples include normal morphogenesis of the cardiac conduction system and the normal postnatal involution of the right ventricle, both of which are mediated by apoptosis. Destructive counterparts include familial heart block ending in fatal arrhythmias, similar results in the long QT syndrome, and the pathogenesis of both Uhl's anomaly and arrhythmogenic right ventricular dysplasia; in each apoptosis is an important factor. With permission, from the Annual Review of Physiology Volume 60, 1998, by Annual Reviews Inc. (<http://www.annurev.org>).

TEXT:

KEY WORDS: sinus node, AV node, right ventricular involution, Uhl's anomaly

INTRODUCTION

Although apoptosis remains an unfamiliar word and concept for some physicians and scientists, an understanding of apoptosis has already become essential in explaining many fundamental biological processes such as those by which a variety of cardiovascular functions and diseases emerge and evolve. The word apoptosis was introduced by Kerr, Wyllie & Currie (1) to explain a generally ignored form of cell death very different from necrosis. It is an original Greek word referring to a quiet dropping out process similar to leaves falling from a tree, an image resembling most histologic examples of apoptosis. An excellent history of earlier morphological descriptions of this type over the past century has recently been published by Majno & Joris (2), but the broad significance of apoptosis to explain many normal biological functions, such as morphogenesis and the pathogenesis of a variety of immunological and malignant diseases, only began to be recognized more widely through several perceptive interpretations by Wyllie and his colleagues (3-5).

Regrettable delay in the appreciation of major opportunities for understanding the pathogenesis of disease is nothing new. For example, the pioneering reports of Glucksmann (6), Saunders (7), and Pexsieder (8), in which they emphasized that cell death was not only normal but an essential component of morphogenesis, did not receive the attention of scientists or physicians that those reports warranted. Familiar examples of useful morphogenesis include the crucial role of cell death (by apoptosis) in the fetal transformation of interdigital webs into fingers and toes, and the postnatal death of enormous numbers of neurons in the development of useful signaling pathways during normal maturation of the brain.

When I first suggested that cell death was ubiquitous and also normal in the postnatal maturation of the AV (atrioventricular) node and His bundle and that it could pose a hazard for crib death (9), given certain concurrent factors present by chance (10), the idea was harshly criticized (11-13) for a variety of stated reasons. Some said that cell death was never normal, some said that they did not see examples of such cell death in the conduction system of the heart, while still others said yes they saw exactly what I described but that it was a normal phenomenon and not one of cell death because "there was no evidence of necrosis." Apoptosis was

presumably an unfamiliar or unacceptable phenomenon for these critics. But as recently emphasized in my refutations of those criticisms, cell death is a normal component of postnatal morphogenesis of the human cardiac conduction system, and apoptosis is a major and possibly the principal mechanism by which this occurs (14).

However, the fact that apoptotic cell death may very often be useful does not mean that apoptosis is always a beneficial process. This seeming paradox--in some respects the yin and yang of cardiology--is better understood when one considers the multitude of different promoters or inhibitors of apoptosis, each of which has a progression that in some circumstances may be reversible, but at a later stage becomes irreversible, thus committing the cell inevitably to die. Unsurprisingly, the balance between promotion and inhibition of apoptosis often changes with time, or as a consequence of associated metabolic or toxic influences, and it differs in different organs of the mammalian body and differs to some degree between species. Whether apoptosis in the human heart is beneficial or harmful depends significantly upon when it happens and how long it lasts. It is the purpose of this review to examine both beneficial and harmful effects of apoptosis in the human heart and to briefly discuss their clinical significance.

ILLUSTRATIVE EXAMPLES OF NORMAL AND ABNORMAL CONSEQUENCES OF APOPTOSIS IN THE HUMAN HEART

POSTNATAL MORPHOGENESIS OF THE CARDIAC CONDUCTION SYSTEM

Both the sinus node and the AV conduction system (node, His bundle, and branches) can readily be recognized by the middle of the first trimester of fetal development (15, 16), but they remain essentially unchanged thereafter until one or two weeks following birth. Then the postnatal sinus node begins to be transformed (Figure 1, see color insert) from a mass of P cells, distributed about the large artery around which the sinus node is formed, into a more intricate network of slender transitional cells connecting many small groups of P cells (17, 18). The time when the sinus node achieves its adult configuration varies among individuals but is usually complete in the first few years of life. The sinus node in old age normally contains an increased volume of collagen (19), and this is sometimes misinterpreted as a pathological fibrosis. However, if the increasing fibrosis remains symmetrically distributed and the nodal myocytes similarly dispersed, this is not only normal but may even represent certain physiological advantages for impulse formation and its orderly extranodal distribution.

Also within the first week or two after birth, the fetal AV node and His bundle change morphologically very little. But an elegant experimental study by Preston, McFadden & Moe (20) some years ago demonstrated a physiological or functional immaturity of the AV conduction tissues in the very young of three different mammalian species, from which the investigators proposed a mechanism for electrical vulnerability leading to sudden unexpected death of human infants.

At about the age of two weeks, an orderly morphogenesis begins in which the irregular shape of the left side of the human AV node and His bundle [Figures 2 (see color insert) and 3] becomes transformed into a smooth border by a process of non-inflammatory resorptive degeneration (14, 18, 21). This process has now been demonstrated to include, and possibly be fully mediated by, apoptosis (14, 22). In every heart, this transforming process shapes and molds the AV node and His bundle through recurring bouts of apoptosis--weeks or months apart and not as a massive single event--and is normally complete by adolescence. Another possible morphogenetic influence in this postnatal morphogenesis is the extracellular matrix

(23-25). Actually, the sinus node is normally encased in a periarterial collagen framework, and both the AV node and His bundle are normally bounded at their margins by the collagenous central fibrous body.

The fact that the sinus node is normally encased in a collagen framework surrounding the sinus node artery led Soderstrom (26) to suggest that the sinus node resembles an enormous adventitia of its artery. Postnatal morphogenesis of the sinus node certainly includes apoptosis in a selectively distributed pattern with interweaving collagen, but it is uncertain whether that collagen acts to some degree as an inducer of apoptosis or whether there are genetically programmed or targeted nodal cells for primary apoptosis not causally related to the extracellular matrix. Just as there may be an electromechanical servomechanism (27, 28) influencing sinus impulse formation (mediated by the collagen frame of the node being attached to the sinus node artery), we can also consider the possibility that this anatomical arrangement influences how the apoptosis occurs in producing the eventual exquisite geometry of the adult sinus node's configuration. The mature interwoven pattern of a collagen matrix for the nodal myocytes (P cells and transitional cells) could be guided by physical motion determined with each phasic systolic distention (pulse) of the sinus node artery; stretch, for example, has been shown to induce apoptosis (29).

When cut in cross section (Figures 2 and 3), the fetal AV node and His bundle normally have an irregular or shaggy configuration that includes a wide dispersion of bands and clumps of their myocytes throughout the neighboring central fibrous body (18, 21). It was this disproportionately large mass of special myocytes that led Keith & Flack to refer to both structures in the fetal heart as relatively enormous (30). The orderly pruning of this surplus tissue, primarily accomplished by apoptosis (14, 22), normally leaves the AV node and His bundle as smoothly defined structures and almost certainly renders them physiologically safer for their critically important electrical function.

If fronds of normal tissue persist in the central fibrous body adjacent to the AV node, they can become the anatomical substrate for sites of either spontaneous automatic rhythm such as parasystole, or re-entrant (reciprocating) tachycardia (31). Failure in this normal molding and shaping of the AV node and His bundle may also cause unstable and hazardous electrical function there and even sudden death (32). It has recently been demonstrated that AV nodal re-entry is nearly always the specific basis of human fetal tachycardia (33). The lethal hazard of persistent fetal dispersion (in the central fibrous body) of the AV node and His bundle (32) is also supported by experimental evidence of a special postnatal electrical vulnerability of an immature AV transmission system (20).

SELECTIVE APOPTOTIC DESTRUCTION OF THE SINUS NODE AND AV NODE PLUS THE INTERNODAL AND INTERATRIAL PATHWAYS

Gradually progressive development of heart block ending with fatal arrhythmias has been described as a familial problem in South Africa (34, 35). Colleagues and I have conducted postmortem examination of the entire cardiac conduction system of a young woman who had gradually progressive development of complete heart block ending in fatal arrhythmias (22), and we found total absence of the AV node (Figure 4, see color insert) to explain the heart block, but she also had virtually no cardiac myocytes in the internodal and interatrial pathways (Figure 5) and extensive destruction of the sinus node (Figure 6, see color insert). In each of these structures there was abundant apoptosis (Figure 7, see color insert), whereas the His bundle and the myocardium of both ventricles were normal.

As part of that same investigation (22), we examined two other hearts

from five brothers with a strong family history of heart block and fatal arrhythmias, where we found similar selective apoptotic destruction of the sinus node, AV node, internodal and interatrial pathways, with sparing of the His bundle and all the ventricular myocardium. Two surviving brothers in that family were successfully treated with implanted automatic cardioverter-defibrillators, without which it seems likely that they would have died as well.

Selectivity of the apoptosis in these three hearts and the sparing of ventricular myocardium and the His bundle is perplexing, as is apparent from the following descriptions of different selectivity patterns for harmful apoptosis in other subjects with fatal arrhythmias. On the other hand, the selective destruction of the internodal and interatrial pathways, but not other atrial myocardium in each of those three hearts, lends support to the concept of some form of specialization in the internodal pathway cells (36, 37), analogous to the well-documented (38, 39) preservation of functional electrical activity among them in the presence of experimental hyperkalemia of a degree sufficient to eliminate all contractile function in other atrial myocytes, i.e. those not in the internodal and interatrial pathways.

APOPTOTIC DESTRUCTION OF MYOCYTES, VASCULAR ENDOTHELIAL AND SMOOTH MUSCLE CELLS, AND NEURAL STRUCTURES IN THE SINUS NODES OF FATAL CASES OF THE LONG QT SYNDROME

In collaboration with Russian colleagues we conducted electron microscopic examination (Figure 8) of plastic-embedded tissue obtained from sinus nodes that had been surgically excised from hearts of patients who had the long QT syndrome and intractable arrhythmias (40). Bokeriya and his surgical associates have developed a surprising protocol for successful treatment of such patients by removing the sinus node and then utilizing permanent electronic pacing (41). This seemingly draconian method is actually not so different from a widely utilized protocol of large doses of β -receptor blockers to suppress ventricular excitability but concomitantly causing a strong negative chronotropic effect, thus worsening an already dangerous sinus bradycardia, which is countered by employing permanent electronic pacing (42, 43). Actually, leaving the sinus node in place in those patients has its own hazard of ectopic or escape sinus beats causing serious electrical disturbance even in the presence of pacing (44, 45).

Sinus bradycardia in the presence of markedly delayed repolarization is conducive to a variety of potentially fatal arrhythmias (46-48). Morphological abnormalities in the sinus node in fatal cases of the long QT syndrome were the first structural pathology reported in the conduction system of such patients (46). Neither of the two original studies of the long QT syndrome (49, 50) reported any anatomical abnormalities in the hearts of their fatal cases. In another publication, we have described extensive cardioneuropathy present in the hearts of eight cases of fatal long QT syndrome, some of which was in the ventricular myocardium, but the neural abnormalities (both nerves and ganglia) were primarily in and near the sinus node (51).

Our electron microscopic studies of the sinus nodes from Russian patients demonstrated abnormal focal fibrosis in each sinus node, accompanied by narrowed small arteries and degenerated neural elements, without associated inflammation (40). In each sinus node there were many examples of typical apoptosis destroying nodal cells (Figure 8). Surprisingly, there were also numerous cells exhibiting pleomorphic micromitochondriosis, which we did not expect to

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03766792 H.W. WILSON RECORD NUMBER: BGSI98016792 (THIS IS THE FULLTEXT)
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James, Thomas N
Annual Review of Physiology (Annu Rev Physiol) v. 60 ('98) p. 309-25
LANGUAGE: English
COUNTRY OF PUBLICATION: United States
WORD COUNT: 8534

ABSTRACT: Knowledge about apoptosis has become essential for understanding many aspects of cardiac structure and function. In the human heart there are major periods of morphogenesis that begin only after birth, and some of these processes recur intermittently for many years. Although the exact mechanisms by which these events are initiated or terminated remain poorly understood, it is clear that their benefits may be mirrored in destructive effects. In this review, selected examples include normal morphogenesis of the cardiac conduction system and the normal postnatal involution of the right ventricle, both of which are mediated by apoptosis. Destructive counterparts include familial heart block ending in fatal arrhythmias, similar results in the long QT syndrome, and the pathogenesis of both Uhl's anomaly and arrhythmogenic right ventricular dysplasia; in each apoptosis is an important factor. With permission, from the Annual Review of Physiology Volume 60, 1998, by Annual Reviews Inc. (<http://www.annurev.org>).

TEXT:

KEY WORDS: sinus node, AV node, right ventricular involution, Uhl's anomaly

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03546695 H.W. WILSON RECORD NUMBER: BGS197046695 (THIS IS THE FULLTEXT)
Cellular and molecular mechanisms of pulmonary vascular remodeling.
Stenmark, K. R
Mecham, R. P
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ABSTRACT: In many organs and tissues, the cellular response to injury is associated with a reiteration of specific developmental processes. Studies have shown that, in response to injury, vascular wall cells in adult organisms express genes or gene products characteristic of earlier developmental states. Other genes, expressed preferentially in adult cells in vivo, are down-regulated following injurious stimuli. Complicating matters, however, are recent observations demonstrating that the vascular wall is comprised of phenotypically heterogeneous subpopulations of endothelial cells, smooth muscle cells, and fibroblasts. It is unclear how specific subsets of cells respond to injury and thus contribute to the vascular remodeling that characterizes chronic pulmonary hypertension. This review discusses vascular development in the lung and the cellular responses occurring in pulmonary hypertension; special attention is given to heterogeneity of responses within cell populations and reiteration of developmental processes. With permission, from the Annual Review of Physiology Volume 59, 1997, by Annual Reviews Inc. (<http://www.annurev.org>).

TEXT:

KEY WORDS: pulmonary hypertension, lung development, vascular development, vascular injury, smooth muscle cells, fibroblasts, endothelial cells

INTRODUCTION

In several adult tissues (e.g. liver and heart), the cellular response to injury is associated with a reiteration of specific developmental processes. This seems to be true for the vasculature as well. Studies have shown that adult smooth muscle cells (SMCs) responding to injury express genes or gene products (such as tropoelastin, fibronectin, tenascin, F31/H19, cytokeratin 8, and extra domain-A fibronectin) characteristic of earlier developmental states (76, 90, 101, 113, 134, 141). In addition, genes such as smooth muscle-specific α -actin, tropomyosin, desmin, and myosin, which are expressed preferentially in adult cells in vivo, are down-regulated when adult cells are stimulated to migrate and divide following injurious stimuli (116, 117). Similar though less extensive reports exist regarding re-expression of developmentally regulated genes by endothelial cells and fibroblasts in response to injury. Complicating matters, however, are recent observations demonstrating that the vascular media is comprised of phenotypically heterogeneous subpopulations of SMCs. It is unclear if all adult medial SMC subpopulations are capable of responding to injury with changes in gene expression and replicative potential, or if the post-injury response is limited to specific subsets of cells within the vessel wall (222). The goal of this review is thus twofold: (a) to discuss vascular development in the lung, especially the mechanisms that control growth and differentiation (in an effort to lay the groundwork for understanding the cellular responses and the mechanisms that control them in the setting of pulmonary vascular injury) and (b) to discuss the cellular changes that occur in various forms of pulmonary hypertension, with special attention to heterogeneity of responses within cell populations and reiteration of developmental processes (Figure 1).

DEVELOPMENT OF THE PULMONARY VASCULATURE

The lung is a highly complex organ comprised of more than 40 different cell types (38) that are involved in both respiratory and nonrespiratory functions. Despite its eventual complexity of structure and function, the lung has ostensibly simple beginnings. The lung epithelium originates as paired outpocketings from the floor of the pharyngeal endoderm that expand

into mesenchyme derived from splanchnic mesoderm. The epithelial rudiments subsequently undergo a series of repetitive branchings to give rise to the pulmonary tree. Much effort has been directed at defining the mechanisms that regulate normal epithelial pattern formation (termed branching morphogenesis), but much less is known about how the pulmonary vasculature is formed. The development and maintenance of normal vascular structure clearly plays a critical role in lung function, yet several major questions about the regulation of this process in the normal and diseased lung remain unanswered.

ENDOTHELIAL CELL REPLICATION AND VASCULOGENESIS IN THE DEVELOPING LUNG
 In the embryonic lung, endothelial precursor cells (angioblasts) initially form a primary vascular plexus within the tissue, which eventually links up to the main circulation, of sixth branchial arch origin, coming from the heart. Studies using intracoelomic chimeric recombinations between quail and chick embryonic lungs have demonstrated that the endoderm seems to control lung vasculogenesis by inducing the emergence of endothelial cells in its associated mesoderm (184). Furthermore, tissue mixing experiments also suggest that vessel formation in the lung, like branching morphogenesis, may depend on the interaction between epithelium and mesenchyme (129, 143, 212). Thus a true reciprocity would exist in which epithelial proliferation and differentiation are induced by an as-yet-unidentified mesenchymal cell population. The induced epithelium (or a subpopulation of cells thereof) in turn produces factors that stimulate endothelial cell proliferation and organization. The endothelium itself may then produce factors to recruit other mesenchymal cells (e.g. SMC precursors) necessary for the completion of vessel structure.

Specific growth factors found in the developing lung, including acidic fibroblast growth factor (aFGF), basic fibroblast growth factor (bFGF), and platelet-derived endothelial cell growth factor (PD-ECGF), regulate endothelial cell proliferation in vivo and in vitro (81, 84, 99, 216). Another candidate molecule likely to play a major role in lung vascular development is vascular endothelial growth factor (VEGF), a member of the PDGF family that is identical to vascular permeability factor (157) and vasculotropin (190). It is abundant in highly vascularized tissues such as kidney, placenta, and lung. Unlike the FGFs, VEGF appears to be an endothelial-specific mitogen and is involved in both

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? t s4/7/9

>>>Format 7 is not valid in file 143

4/7/9 (Item 1 from file: 144)
 DIALOG(R)File 144:Pascal
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13863741 PASCAL No.: 99-0041435
 Influence des alleles de l'apolipoproteine E sur la restenose apres
 angioplastie coronaire chez la femme
 (Influence of apolipoprotein E alleles on post-angioplasty
restenosis in woman)
 FLORK L; JOUANEL P; LUSSON J R; LEAUTE S; DAUPHIN C; MOTREFF P; JUSTIN E
 P; LAMAISSON D; BOIRE J Y; CASSAGNES J
 Service de cardiologie, CHU G-Montpied, 63009 Clermond-Ferrand, France;
 Laboratoire de biochimie, CHU Hotel-Dieu, 63009 Clermond-Ferrand, France;

ERIM, Faculte de medecine, BP 38, 63001 Clermond-Ferrand, France
Journal: Archives des maladies du coeur et des vaisseaux, 1998, 91 (12)
1475-1479

ISSN: 0003-9683 CODEN: AMCVAN Availability: INIST-887;
354000073231900050

No. of Refs.: 23 ref.

Document Type: P (Serial) ; A (Analytic)

Country of Publication: France

Language: French

Meme si l'emploi d'endoprothese en diminue l'incidence, le phenomene de restenose coronaire apres dilatation percutanee reste entier. L'influence des lipoproteines dans le developpement de l'atherosclerose n'est plus a demontrer, mais leur role dans la restenose est plus discutable. Des resultats contradictoires ont ete publies a propos de la responsabilite du genotype de l'Apo E. Dans un premier travail, nous avons mis en evidence la relation LP (a) et coronaropathie plus etroite chez la femme que chez l'homme, Un sous-groupe de patientes qui ont eu une angioplastie dont le profil lipidique etait bien etabli a ete analyse en se focalisant sur les alleles de l'Apo E. Methodes : 59 patientes ont eu une angioplastie parmi lesquelles 35 monotronculaires, 20 bitronculaires et 4 tritronculaires. Une coronarographie de controle a ete pratiquée chez 40 patientes. Un interrogatoire telephonique a ete realise entre 12 et 22 mois apres la dilatation a l'ensemble de la population. Les apolipoproteines A1, B, LP (a) et LP A1 sont dosees par techniques immunologiques, turbidimetriques ou electro-immunologiques. Le genotypage de l'Apo E est realise a l'aide du kit Inno-Lipa. Resultats : la repartition des patientes est la suivante : 18 restenoses angiographiques (groupe A), 20 coronarographies sans restenose (groupe B), 41 sans restenose angiographique (20) ou clinique (21) (groupe C). Dans le groupe A, la LP (a) depasse largement le seuil de 0,30 g/L. L'allele e4 est associe a un cholestérol total et sa fraction LDL les plus eleves. Il n'y a pas de difference significative entre le genotype Apo E des differents groupes ni en fonction de la severite des lesions. En conclusion : si l'allele e4 est plus frequemment associe a un taux eleve de LDL cholestérol et LP (a), nous n'avons pas prouve son role dans le processus de restenose. Un nombre de malades plus Important est necessaire et des travaux complementaires souhaitables pour comprendre les mecanismes inflammatoires et/ou immunologiques par lesquels l'Apo E pourrait intervenir dans la restenose.

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? t s4/7/10-15

>>>Format 7 is not valid in file 143

4/7/10 (Item 2 from file: 144)
DIALOG(R)File 144:Pascal
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13475066 PASCAL No.: 98-0172121
EPIDEMIOLOGIE DE LA MALADIE CORONAIRE : RECHERCHE DES DETERMINANTS
GENETIQUES DE LA VASOMOTRICITE CORONAIRE ET DE LA RESTENOSE
(CORONARY DISEASE EPIDEMIOLOGY : CORONARY AND **RESTENOSIS** GENETIC
RISK FACTORS DETERMINATION)
AMANT Carole; AMOUYEL Philippe, dir
Universite de Lille 1, Villeneuve-d'Ascq, Francee
Univ.: Universite de Lille 1. Villeneuve-d'Ascq. FRA Degree: Th. doct.
1997-12; 1997 183 p.
Availability: INIST-T 116002; T97LIL10134 0000; RBCCN-590092102;

T97LIL10134 0000

No. of Refs.: 214 ref.

Document Type: T (Thesis) ; M (Monographic)

Country of Publication: France

Language: French Summary Language: French; English

L'insuffisance coronaire et l'infarctus du myocarde sont les premieres causes de mortalite et de morbidite dans les pays industrialises. Comme dans la plupart des maladies multifactorielles, de nombreux facteurs de risque predisposent au developpement et a la survenue de la maladie coronaire. Il s'agit des facteurs de risque environnementaux et des facteurs de susceptibilite genetique. Dans le travail presente ici, nous nous sommes focalises sur des genes candidats issus du systeme renine-angiotensine. Les etudes developpees ont consiste a mesurer le degre d'implication de ce systeme dans les phenomenes de restenose et de vasoconstriction accrue. Nos resultats suggerent que l'**allele** D du gene de l'Enzyme de Conversion de l'Angiotensine I (ECA) constitue un facteur de risque majeur d'occlusion apres angioplastie conventionnelle et de restenose apres angioplastie avec pose d'endoprothese coronaire, le stent. Nous avons aussi mis en evidence que l'**allele** C du gene du recepteur de l'angiotensine II de type 1 (AT1) est lie a une vasoconstriction coronaire augmentee. Cliniquement, ces resultats sont interessants car ils permettent d'identifier les patients a haut risque de restenose et/ou de vasoconstriction augmentee dans le but de prevenir les accidents coronaires graves qui pourraient survenir, tels qu'un infarctus post-angioplastie ou un vasospasme. Cependant d'autres etudes sont necessaires pour verifier nos resultats tant au niveau epidemiologique qu'aux niveaux clinique et physiologique.

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4/7/11 (Item 1 from file: 155)

DIALOG(R) File 155:MEDLINE(R)

11567561 21405569 PMID: 11514491

Interleukin 1 receptor antagonist gene polymorphism and restenosis after coronary angioplasty.

Francis SE; Camp NJ; Burton AJ; Dewberry RM; Gunn J; Stephens-Lloyd A; Cumberland DC; Gershlick A; Crossman DC

Cardiovascular Medicine Group, Division of Clinical Sciences, Clinical Sciences Centre, University of Sheffield, Northern General Hospital, Sheffield S5 7AU, UK.

Heart (England) Sep 2001, 86 (3) p336-40, ISSN 1468-201X
Journal Code: CEN

Languages: ENGLISH

Document type: Journal Article

Record type: In Process

BACKGROUND: Percutaneous transluminal coronary angioplasty (PTCA) is limited by the recurrence of luminal stenosis, which occurs in up to 50% of procedures. It has been shown that patient specific factors, perhaps genes, contribute to this process. OBJECTIVE: To determine whether completion of healing after PTCA is part of an acute self limiting inflammatory process and whether **polymorphism** at important inflammatory gene loci might determine susceptibility to **restenosis** after PTCA. DESIGN: DNA samples were collected from 171 patients attending for elective PTCA in Sheffield (S) and Leicester (L), who were scheduled to undergo follow up angiography (at four months (L) or six months (S)) as part of other **restenosis** studies. At follow up angiography, the patients were

separated into restenoters (> 50% luminal narrowing) and non-restenoters (< 50% luminal narrowing). Four DNA polymorphisms within **interleukin 1** (**IL-1**) related loci (**IL-1A** (-889), **IL-1B** (-511), **IL-1B** (+3954), and **IL-1RN** intron 2 VNTR (variable number tandem repeat)) were genotyped using methods based on polymerase chain reaction. Significance was assessed by chi(2) analysis of the relevant contingency table, and the magnitude of effect was estimated by calculating odds ratios. The Mantel-Haenszel (MH) test was applied to summarise data across the two populations. RESULTS: **Allele 2** at **IL-1RN** (**IL-1RN*2**) was significantly over represented in the non-restenoter group (L+S, 34% v 23% in restenoters). Furthermore, **IL-1RN*2** homozygosity was increased in the non-restenoter population compared with the restenoters (MH test: p = 0.0196 (L+S); p = 0.031 (L+S, single vessel disease only), and the effect seemed to be restricted to the single vessel disease subpopulation. For other **polymorphism** within **IL-1** related loci no significant associations were found with either **restenosis** or non-**restenosis**. CONCLUSIONS: **IL-1RN*2** may be associated with protection from **restenosis** after PTCA for individuals with single vessel disease. As this **polymorphism** has functional significance, this finding suggests that alteration in an individual's inflammatory predisposition may modulate the blood vessel response to injury.

Record Date Created: 20010821

4/7/12 (Item 1 from file: 399)
DIALOG(R) File 399:CA SEARCH(R)
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135032750 CA: 135(3)32750s PATENT
Interleukin-1 homologue, MAT IL-1H4
INVENTOR(AUTHOR): Kumar, Sanjay; McDonnell, Peter C.; Young, Peter R.
LOCATION: USA
ASSIGNEE: Smithkline Beecham Corporation
PATENT: PCT International ; WO 0140247 A1 DATE: 20010607
APPLICATION: WO 2000US32521 (20001130) *US 452140 (19991201)
PAGES: 30 pp. CODEN: PIXXD2 LANGUAGE: English CLASS: C07H-021/02A;
C12N-015/00B; C12N-005/00B; C07K-001/00B; C07K-016/00B
DESIGNATED COUNTRIES: JP DESIGNATED REGIONAL: AT; BE; CH; CY; DE; DK; ES
; FI; FR; GB; GR; IE; IT; LU; MC; NL; PT; SE; TR
SECTION:
CA215005 Immunochemistry
CA201XXX Pharmacology
CA203XXX Biochemical Genetics
CA209XXX Biochemical Methods
CA214XXX Mammalian Pathological Biochemistry
IDENTIFIERS: MAT interleukin 1H4 agonist antagonist screening, antibody
inflammation mature interleukin 1H4 inhibitor
DESCRIPTORS:
Respiratory distress syndrome...
acute; interleukin 1H4 and mature IL-1H4 for screening agonists and
antagonists for treating inflammation, infection, cancer, autoimmune
disease and others
Diagnosis...
agents; interleukin 1H4 and mature IL-1H4 for screening agonists and
antagonists for treating inflammation, infection, cancer, autoimmune
disease and others
Immunoassay...

enzyme-linked immunosorbent assay; interleukin 1H4 and mature IL-1H4 for screening agonists and antagonists for treating inflammation, infection, cancer, autoimmune disease and others

Heart,disease...
failure; interleukin 1H4 and mature IL-1H4 for screening agonists and antagonists for treating inflammation, infection, cancer, autoimmune disease and others

Transplant and Transplantation...
graft-vs.-host reaction; interleukin 1H4 and mature IL-1H4 for screening agonists and antagonists for treating inflammation, infection, cancer, autoimmune disease and others

Intestine,disease...
inflammatory; interleukin 1H4 and mature IL-1H4 for screening agonists and antagonists for treating inflammation, infection, cancer, autoimmune disease and others

Brain,disease...
injury; interleukin 1H4 and mature IL-1H4 for screening agonists and antagonists for treating inflammation, infection, cancer, autoimmune disease and others

AIDS(disease)... Allergy... Alzheimer's disease... Antibodies... Arthritis ... Asthma... Atherosclerosis... Autoimmune disease... Bone,disease... cDNA sequences... Drug screening... Fusion proteins(chimeric proteins)... Infection... Inflammation... Ischemia... Labels... Lymphoproliferative disorders... Molecular cloning... mRNA... Mutation... Neoplasm... Nucleic acid hybridization... Oligonucleotides... Osteoporosis... Protein sequences ... Psoriasis... Septicemia... Stress,animal... Susceptibility(genetic)...

Transplant rejection...
interleukin 1H4 and mature IL-1H4 for screening agonists and antagonists for treating inflammation, infection, cancer, autoimmune disease and others

Probes(nucleic acid)...
labeled; interleukin 1H4 and mature IL-1H4 for screening agonists and antagonists for treating inflammation, infection, cancer, autoimmune disease and others

Artery,disease...
restenosis; interleukin 1H4 and mature IL-1H4 for screening agonists and antagonists for treating inflammation, infection, cancer, autoimmune disease and others

Brain,disease...
stroke; interleukin 1H4 and mature IL-1H4 for screening agonists and antagonists for treating inflammation, infection, cancer, autoimmune disease and others

Interleukins...
1H4; interleukin 1H4 and mature IL-1H4 for screening agonists and antagonists for treating inflammation, infection, cancer, autoimmune disease and others

CAS REGISTRY NUMBERS:

265295-30-5 343914-85-2 amino acid sequence; interleukin 1H4 and mature IL-1H4 for screening agonists and antagonists for treating inflammation, infection, cancer, autoimmune disease and others

175941-97-6 209511-54-6 224113-70-6 interleukin 1H4 and mature IL-1H4 for screening agonists and antagonists for treating inflammation, infection, cancer, autoimmune disease and others

303170-58-3 nucleotide sequence; interleukin 1H4 and mature IL-1H4 for screening agonists and antagonists for treating inflammation, infection, cancer, autoimmune disease and others

343916-05-2 343916-06-3 unclaimed nucleotide sequence; interleukin-1 homolog, MAT IL-1H4

S2 584 S1 AND (POLYMORPHISM OR ALLELE OR MUTATION)
? s s2 and (interleukin or IL)

584 S2
725902 INTERLEUKIN
878382 IL

S3 24 S2 AND (INTERLEUKIN OR IL)
? rd s3

...completed examining records

S4 15 RD S3 (unique items)
? t s4/7/1-15

>>>Format 7 is not valid in file 143

4/7/1 (Item 1 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
(c) 2001 BIOSIS. All rts. reserv.

12815465 BIOSIS NO.: 200100022614

Protective role against **restenosis** from an **interleukin-1**
receptor antagonist gene **polymorphism** in patients treated with
coronary stenting.

AUTHOR: Kastrati Adnan(a); Koch Werner; Berger Peter B; Mehilli Julinda;
Stephenson Katherine; Neumann Franz-Josef; von Beckerath Nicolas;
Boettiger Corinna; Duff Gordon W; Schoemig Albert

AUTHOR ADDRESS: (a)Deutsches Herzzentrum, Muenchen, Lazarettstrasse 36,
80636, Muenchen: kastrati@dhm.mhn.de**Germany

JOURNAL: Journal of the American College of Cardiology 36 (7):p2168-2173
December, 2000

MEDIUM: print

ISSN: 0735-1097

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: English

SUMMARY LANGUAGE: English

ABSTRACT: OBJECTIVES: To test the hypothesis that **interleukin-1**
receptor antagonist (**IL-1ra**) gene **polymorphism** contributes to
the risk of **restenosis** after coronary stenting. BACKGROUND:
Cytokines of the **interleukin-1** (**IL-1**) family play a central
role in regulating inflammatory responses. There is strong evidence to
support **IL-1** involvement in smooth muscle cell mitogenesis and
extracellular matrix metabolism. The **IL-1ra** counters the
proinflammatory effects of **IL-1**. The **interleukin-1** receptor
antagonist gene (**IL-1RN**) contains several well-characterized
polymorphic sites that correlate with altered **IL-1ra** levels.
METHODS: In 1,850 consecutive patients, clinical and angiographic
measures of **restenosis** were evaluated over one year after coronary
stent placement. Repeat angiography at six months was achieved in 84% of
the patients; angiographic **restenosis** was defined ltoreq50%
diameter stenosis at follow-up. Genotyping for an exon 2
polymorphism (+2,018) of **IL-1RN** (alleles 1 and 2) was based
on a polymerase chain reaction technique. RESULTS: **Allele 2**
frequency was 0.28. Carriers of **allele 2** had a significantly lower
risk for angiographic **restenosis**, odds ratio (OR) of 0.78 (95%
confidence interval, 0.63 to 0.97) and target vessel revascularization,
OR of 0.73 (0.58 to 0.92) compared with noncarriers. Risk reduction was

especially significant in patients <60 years (n = 696), with OR of 0.63 (0.43 to 0.91) for angiographic **restenosis** and 0.55 (0.39 to 0.78) for target vessel revascularization. CONCLUSIONS: **Allele 2** of the **IL-1** gene was associated with a lower incidence of **restenosis** after coronary stenting, particularly in younger patients. This finding supports a role of inflammation in the development of **restenosis** after stent placement.

4/7/2 (Item 2 from file: 5)
DIALOG(R) File 5:Biosis Previews(R)
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12776795 BIOSIS NO.: 200000530418
Protection against **restenosis** from an **interleukin-1** receptor antagonist gene **polymorphism** in patients treated with coronary stenting.
AUTHOR: Astrati A; Koch W(a); Berger P B; Mehilli J(a); Stephenson K; von Beckerath N(a); Boettiger C(a); Schoemig A(a); diGiovine F; Duff G W
AUTHOR ADDRESS: (a)Deutsches Herzzentrum, TU Munich, Munich**Germany
JOURNAL: European Heart Journal 21 (Abstract Supplement):p390
August-September, 2000
MEDIUM: print
CONFERENCE/MEETING: XXII Congress of the European Society of Cardiology
Amsterdam, Netherlands August 26-30, 2000
SPONSOR: European Society of Cardiology
ISSN: 0195-668X
RECORD TYPE: Citation
LANGUAGE: English
SUMMARY LANGUAGE: English

4/7/3 (Item 3 from file: 5)
DIALOG(R) File 5:Biosis Previews(R)
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12281187 BIOSIS NO.: 200000034689
Genetic risk factors for post-PTCA **restenosis**: A comprehensive analysis of multiple candidate genes.
AUTHOR: Zee Robert Y I(a); Fernandez-Ortiz Antonio; Macaya Carlos; Pintor Emilio; Fernandez-Cruz Arturo; Lindpaintner Klaus
AUTHOR ADDRESS: (a)Brigham and Women's Hosp, Harvard Med Sch, Boston, MA** USA
JOURNAL: Circulation 110 (18 SUPPL.):pI755 Nov. 2, 1999
CONFERENCE/MEETING: 72nd Scientific Sessions of the American Heart Association Atlanta, Georgia, USA November 7-10, 1999
ISSN: 0009-7322
RECORD TYPE: Citation
LANGUAGE: English

4/7/4 (Item 1 from file: 34)
DIALOG(R) File 34:SciSearch(R) Cited Ref Sci
(c) 2001 Inst for Sci Info. All rts. reserv.

02872745 Genuine Article#: ML674 Number of References: 104
Title: VASCULAR TRANSCELLULAR SIGNALING
Author(s): MARCUS AJ; HAJJAR DP

Corporate Source: CORNELL UNIV,MED CTR,COLL MED,DEPT BIOCHEM,1300YORK
AVE/NEW YORK//NY/10021; CORNELL UNIV,MED CTR,COLL MED,DEPT
BIOCHEM,1300YORK AVE/NEW YORK//NY/10021; CORNELL UNIV,MED CTR,COLL
MED,DEPT PATHOL/NEW YORK//NY/10021; NEW YORK VET AFFAIRS MED CTR,DIV
HEMATOL ONCOL,THROMBOSIS RES LAB/NEW YORK//NY/00000
Journal: JOURNAL OF LIPID RESEARCH, 1993, V34, N12 (DEC), P2017-2031
ISSN: 0022-2275
Language: ENGLISH Document Type: REVIEW

4/7/5 (Item 2 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
(c) 2001 Inst for Sci Info. All rts. reserv.

02644125 Genuine Article#: LT743 Number of References: 40
Title: ACTIVATED ALPHA-2-MACROGLOBULIN AND TRANSFORMING
GROWTH-FACTOR-BETA-1 INDUCE A SYNERGISTIC SMOOTH-MUSCLE CELL
PROLIFERATIVE RESPONSE
Author(s): STOUFFER GA; LAMARRE J; GONIAS SL; OWENS GK
Corporate Source: UNIV VIRGINIA,SCH MED,DEPT MOLEC PHYSIOL & CELLULAR
BIOPHYS,BOX 449/CHARLOTTESVILLE//VA/22908; UNIV VIRGINIA,SCH MED,DEPT
MOLEC PH^{YSIOL} & CELLULAR BIOPHYS,BOX 449/CHARLOTTESVILLE//VA/22908;
UNIV VIR^{GINIA},SCH MED,DEPT MED/CHARLOTTESVILLE//VA/22908; UNIV
VIRGINIA^{SCH} MED,DEPT PATHOL & BIOCHEM/CHARLOTTESVILLE//VA/22908
Journal: JOURNAL OF BIOLOGICAL CHEMISTRY, 1993, V268, N24 (AUG 25), P
18340-18
ISSN: 0021-9
Language: EN Document Type: ARTICLE

Abstract: The role that soluble binding proteins might play in regulating
transforming growth factor-beta1 (TGF-beta1)-induced growth of smooth
muscle cells (SMC) is unknown. Alpha2-macroglobulin (alpha2M) is the
major plasma binding protein for TGF-beta. Reaction of alpha2M with
methylamine (alpha2M-MA) forms "activated" alpha2M which binds
TGF-beta and specific cell surface receptors. The objectives of these
studies were to determine whether native alpha2M or alpha2M-MA
influences growth responses of cultured rat aortic SMC to TGF-beta1.
Results demonstrated that native alpha2M was not mitogenic. Treatment
with alpha2M-MA or TGF-beta1 stimulated a 3- or 3.5-fold increase in
[H-3]thymidine incorporation, respectively. Cotreatment with TGF-beta1
and alpha2M-MA resulted in a 70-fold increase in [H-3]thymidine
incorporation. SMC bound alpha2M-MA in a specific and saturable manner
and expressed alpha2M receptor/low density lipoprotein receptor-related
protein (LRP). A modified form of alpha2M-MA
(alpha2M-MA-cis-dichlorodiammine platinum), which bound TGF-beta1 but
did not bind alpha2M receptors, failed to enhance TGF-beta1-induced
growth. In summary, results demonstrated that alpha2M-MA enhanced
TGF-beta1-induced growth responses and that this effect was dependent
on alpha2M-MA binding to alpha2M receptor/LRP.

4/7/6 (Item 1 from file: 73)
DIALOG(R)File 73:EMBASE
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10992842 EMBASE No: 2001035352
A 25-year-old with severe coronary artery disease
Ward M.R.; Herity N.A.; Lee D.P.; Yeung A.C.
Dr. A.C. Yeung, Division of Cardiovascular Medicine, Stanford University

Medical Center, 300 Pasteur Drive, Stanford, CA 94305-5218 United States

AUTHOR EMAIL: alan yeung@cvmed.stanford.edu

Lancet (LANCET) (United Kingdom) 13 JAN 2001, 357/9250 (116)

CODEN: LANCA ISSN: 0140-6736

DOCUMENT TYPE: Journal ; Article

LANGUAGE: ENGLISH

NUMBER OF REFERENCES: 5

4/7/7 (Item 1 from file: 98)

DIALOG(R)File 98:General Sci Abs/Full-Text

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03766792 H.W. WILSON RECORD NUMBER: BGS198016792 (THIS IS THE FULLTEXT)
Normal and abnormal consequences of apoptosis in the human heart.

James, Thomas N

Annual Review of Physiology (Annu Rev Physiol) v. 60 ('98) p. 309-25

LANGUAGE: English

COUNTRY OF PUBLICATION: United States

WORD COUNT: 8534

ABSTRACT: Knowledge about apoptosis has become essential for understanding many aspects of cardiac structure and function. In the human heart there are major periods of morphogenesis that begin only after birth, and some of these processes recur intermittently for many years. Although the exact mechanisms by which these events are initiated or terminated remain poorly understood, it is clear that their benefits may be mirrored in destructive effects. In this review, selected examples include normal morphogenesis of the cardiac conduction system and the normal postnatal involution of the right ventricle, both of which are mediated by apoptosis. Destructive counterparts include familial heart block ending in fatal arrhythmias, similar results in the long QT syndrome, and the pathogenesis of both Uhl's anomaly and arrhythmogenic right ventricular dysplasia; in each apoptosis is an important factor. With permission, from the Annual Review of Physiology Volume 60, 1998, by Annual Reviews Inc. (<http://www.annurev.org>).

TEXT:

KEY WORDS: sinus node, AV node, right ventricular involution, Uhl's anomaly

INTRODUCTION

Although apoptosis remains an unfamiliar word and concept for some physicians and scientists, an understanding of apoptosis has already become essential in explaining many fundamental biological processes such as those by which a variety of cardiovascular functions and diseases emerge and evolve. The word apoptosis was introduced by Kerr, Wyllie & Currie (1) to explain a generally ignored form of cell death very different from necrosis. It is an original Greek word referring to a quiet dropping out process similar to leaves falling from a tree, an image resembling most histologic examples of apoptosis. An excellent history of earlier morphological descriptions of this type over the past century has recently been published by Majno & Joris (2), but the broad significance of apoptosis to explain many normal biological functions, such as morphogenesis and the pathogenesis of a variety of immunological and malignant diseases, only began to be recognized more widely through several perceptive interpretations by Wyllie and his colleagues (3-5).

Regrettably, understanding the pioneering reports in which they emphasized a component of morphogenesis in fetal transformation and postnatal death signaling pathways.

When I first reported in the postnatal AV bundle and that it could pose a hazard for crib death (9), given certain concurrent factors present by chance (10), the idea was harshly criticized (11-13) for a variety of reasons. Some said that cell death was never normal, some said that they did not see examples of such cell death in the conduction system, exactly what I described as cell death because "the presumably an unfamiliar as recently emphasized as a normal component of the conduction system, and a mechanism by which this

However, the fact does not mean that apoptosis is always a paradox--in some respects understood when one considers inhibitors of apoptosis in circumstances may be different, thus committing the cell to a balance between promotion and inhibition as a consequence of association in different organs of the mammalian body and differs to some degree between species. Whether apoptosis is harmful depends significantly upon when it happens and how long it lasts. It is the purpose of this review to examine both beneficial and harmful effects of apoptosis in the human heart and to briefly discuss their clinical significance.

the appreciation of major opportunities for morphogenesis of disease is nothing new. For example, the work of Lucksmann (6), Saunders (7), and Pexsieder (8), in which cell death was not only normal but an essential process, did not receive the attention of scientists or reports warranted. Familiar examples of useful morphogenesis include the crucial role of cell death (by apoptosis) in the transformation of interdigital webs into fingers and toes, and the elimination of excess numbers of neurons in the development of useful neural pathways during normal maturation of the brain.

It was stated that cell death was ubiquitous and also normal in the development of the AV (atrioventricular) node and His bundle and that it could pose a hazard for crib death (9), given certain concurrent factors present by chance (10), the idea was harshly criticized (11-13) for a variety of reasons. Some said that cell death was never normal, some said that they did not see examples of such cell death in the heart, while still others said yes they saw examples but that it was a normal phenomenon and not one of the hallmarks of necrosis. Apoptosis was not an acceptable phenomenon for these critics. But in refutations of those criticisms, cell death is a normal component of morphogenesis of the human cardiac conduction system and is a major and possibly the principal mechanism by which this

apoptotic cell death may very often be useful and is always a beneficial process. This seeming paradox of yin and yang of cardiology--is better understood when one considers the multitude of different promoters or inhibitors of which has a progression that in some cases is reversible, but at a later stage becomes irreversible, committing the cell to die. Unsurprisingly, the balance between promotion and inhibition of apoptosis often changes with time, or as a consequence of metabolic or toxic influences, and it differs between organs of the mammalian body and differs to some degree between species. Whether apoptosis is harmful depends significantly upon when it happens and how long it lasts. It is the purpose of this review to examine both beneficial and harmful effects of apoptosis in the human heart and to briefly discuss their clinical significance.

ILLUSTRATIVE EXAMPLES OF NORMAL AND ABNORMAL CONSEQUENCES OF APOPTOSIS IN THE HUMAN HEART

POSTNATAL MORPHOGENESIS OF THE CARDIAC CONDUCTION SYSTEM

Both the sinus node and the AV conduction system (node, His bundle, and branches) can readily be recognized by the middle of the first trimester of fetal development (15, 16), but they remain essentially unchanged thereafter until one or two weeks following birth. Then the postnatal sinus node begins to be transformed (Figure 1, see color insert) from a mass of P cells, distributed about a large artery around which the sinus node is formed, into a more intricate network of slender transitional cells composed of P cells (17, 18). The time when the sinus node achieves its adult configuration varies among individuals but is usually complete in the first few years of life. The sinus node in old age usually contains an increased volume of collagen (19), and this is sometimes misinterpreted as a pathological fibrosis. However, if the collagen is symmetrically distributed and the nodal cells are preserved, this is not only normal but may even

represent certain physiological advantages for impulse formation and its orderly extranodal distribution.

Also within the first week or two after birth, the fetal AV node and His bundle change morphologically very little. But an elegant experimental study by Preston, McFarlane & Moe (20) some years ago demonstrated a developmental immaturity of the AV conduction tissues in the very young of three different mammalian species, from which the investigators proposed a mechanism for electrical vulnerability leading to sudden unexpected death.

At about the age of 1 week or two after birth, the fetal AV node and His bundle [Figures 2 (see insert) and 3] becomes transformed into a smooth border by a process of non-inflammatory resorptive degeneration (14, 18, 21). This process has now been demonstrated to include, and possibly be fully mediated by, apoptosis (14, 22). In every heart, this transforming process shapes and molds the AV node and His bundle through recurring bouts of apoptosis--weeks or months apart and not as a massive single event--and is normally complete by adolescence. Another possible morphogenetic influence in this postnatal morphogenesis is the extracellular matrix (23-25). Actually, the collagen framework, and bounded at their margins by the collagenous central fibrous body.

The fact that the sinus node is normally encased in a collagenous matrix surrounding the sinus node artery led Soderstrom (26) to suggest that the sinus node certainly includes apoptosis in a selectively distributed pattern with interweaving collagen, but it is uncertain whether that collagen acts to some degree as an inducer of apoptosis or whether there are genetically programmed or targeted nodal cells for primary apoptosis not causally related to the extracellular matrix. Just as there may be an electromechanical servomechanism (27, 28) influencing sinus impulse formation (mediated by the collagen frame of the node being attached to the sinus node artery), we can also consider the possibility that this anatomical arrangement influences how the apoptosis occurs in producing the final exquisite geometry of the adult sinus node's configuration. The mature interwoven pattern of a collagen matrix for the nodal myocytes (cells and transitional cells) could be guided by physical motion determined by each phasic systolic distention (pulse) of the sinus node artery; apoptosis (29).

When cut in cross section (Figures 2 and 3), the fetal AV node and His bundle normally have an irregular or shaggy configuration that includes a wide dispersion of bands and clumps of their myocytes throughout the body (18, 21). It was this disproportionately large mass of special myocytes at led Keith & Flack to refer to both structures in the fetus as relatively enormous (30). The orderly pruning of this surplus is primarily accomplished by apoptosis (14, 22), normally leaves the AV node and His bundle as smoothly defined structures and almost certainly renders them physiologically safer for their critically important electrical function.

If fronds of normal myocardium persist in the central fibrous body adjacent to the AV node, they can become the anatomical substrate for sites of either spontaneous automatic rhythm such as parasystole, or re-entrant (reciprocating) tachycardia (31). Failure in this normal molding and shaping of the AV node and His bundle may also cause unstable and hazardous electrical function there leading to sudden death (32). It has recently been demonstrated that AV nodal arrhythmia is nearly always the specific basis of

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human fetal tachycardia (33). The lethal hazard of persistent fetal dispersion (in the central fibrous body) of the AV node and His bundle (32) is also supported by experimental evidence of a special postnatal electrical vulnerability of an immature AV transmission system (20).

SELECTIVE APOPTOTIC DESTRUCTION OF THE SINUS NODE AND AV NODE PLUS THE INTERNODAL AND INTERATRIAL PATHWAYS

Gradually progressive development of heart block ending with fatal arrhythmias has been described as a familial problem in South Africa (34, 35). Colleagues and I have conducted postmortem examination of the entire conduction system of a young woman who had gradually progressive development of complete heart block ending in fatal arrhythmias (22), and we found total absence of the AV node (Figure 4, see color insert) to explain the heart block, but she also had virtually no cardiac myocytes in the internodal and interatrial pathways (Figure 5) and extensive destruction of the sinus node (Figure 6, see color insert). In each of these structures there was abundant apoptosis (Figure 7, see color insert), whereas the His bundle and the myocardium of both ventricles were normal.

In that same investigation (22), we examined two other hearts from other patients with a strong family history of heart block and fatal arrhythmias. We found similar selective apoptotic destruction of the sinus node, AV node, internodal and interatrial pathways, with sparing of the His bundle and the ventricular myocardium. Two surviving brothers in that family were successfully treated with implanted automatic cardioverter-defibrillators, without which it seems likely that they would have died as well.

Selectivity of the apoptosis in these three hearts and the sparing of ventricular myocardium and the His bundle, as is apparent from the following descriptions of different selectivity patterns for harmful apoptosis in other subjects with fatal arrhythmias. On the other hand, the selective destruction of the internodal and interatrial pathways, but not other atrial myocardium in each of those three hearts, lends support to the concept of some form of specialization in the internodal pathway cells (36, 37), analogous to the well-documented (38, 39) preservation of functional electrical activity among them in the presence of experimental hyperkalemia of a degree sufficient to eliminate all contractile function in other atrial myocytes, i.e. those not in the internodal and interatrial pathways.

APOPTOTIC DESTRUCTION OF MYOCYTES, VASCULAR ENDOTHELIAL AND SMOOTH MUSCLE CELLS, AND NEURAL STRUCTURES IN THE SINUS NODES OF FATAL CASES OF THE LONG QT SYNDROME

In collaboration with Russian colleagues we conducted electron microscopic examination (Figure 8) of plastic-embedded tissue obtained from sinus nodes that had been surgically excised from hearts of patients who had the long QT syndrome and intractable arrhythmias (40). Bokeriya and his surgical associates have developed a surprising protocol for successful treatment of such patients by removing the sinus node and then utilizing permanent electronic pacing (41). This seemingly draconian method is actually not so different from a widely utilized protocol of large doses of β -receptor blockers to suppress ventricular excitability but concomitantly causing a strong negative chronotropic effect, thus worsening an already dangerous sinus bradycardia, which is countered by employing permanent electronic pacing (42, 43). Actually, leaving the sinus node in place in those patients has its own hazard of ectopic or escape sinus beats causing serious electrical disturbance even in the presence of pacing (44, 45).

Sinus bradycardia in the presence of markedly delayed repolarization is conducive to a variety of potentially fatal arrhythmias (46-48). Morphological abnormalities in the sinus node in fatal cases of the long QT syndrome were the first structural pathology reported in the conduction system of such patients (46). Neither of the two original studies of the long QT syndrome (49, 50) reported any anatomical abnormalities in the hearts of their fatal cases. In another publication, we have described extensive cardioneuropathy present in the hearts of eight cases of fatal long QT syndrome, some of which was in the ventricular myocardium, but the neural abnormalities (both nerves and ganglia) were primarily in and near the sinus node (51).

Our electron microscopic studies of the sinus nodes from Russian patients demonstrated abnormal focal fibrosis in each sinus node, accompanied by narrowed small arteries and degenerated neural elements, without associated inflammation (40). In each sinus node there were many examples of typical apoptosis destroying nodal cells (Figure 8). Surprisingly, there were also numerous cells exhibiting pleomorphic micromitochondriosis, which we did not expect to

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DIALOG(R)File 98:General Sci Abs/Full-Text

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03766792 H.W. WILSON RECORD NUMBER: BGSI98016792 (THIS IS THE FULLTEXT)
Normal and abnormal consequences of apoptosis in the human heart.
James, Thomas N
Annual Review of Physiology (Annu Rev Physiol) v. 60 ('98) p. 309-25
LANGUAGE: English
COUNTRY OF PUBLICATION: United States
WORD COUNT: 8534

ABSTRACT: Knowledge about apoptosis has become essential for understanding many aspects of cardiac structure and function. In the human heart there are major periods of morphogenesis that begin only after birth, and some of these processes recur intermittently for many years. Although the exact mechanisms by which these events are initiated and remain poorly understood, it is clear that their benefits are often offset by destructive effects. In this review, selected examples of the morphogenesis of the cardiac conduction system and the normal involution of the right ventricle, both of which are mediated by apoptosis. Destructive counterparts include familial heart block and sudden fatal arrhythmias, similar results in the long QT syndrome, and the morphogenesis of both Uhl's anomaly and arrhythmogenic right ventricular dysplasia; in each apoptosis is an important factor. With permission, I have included the Annual Review of Physiology Volume 60, 1998, by Annual Review of Physiology, <http://www.annurev.org>.

TEXT:

KEY WORDS: sinus node, AV node, right ventricular involution, Uhl's anomaly

INTRODUCTION

Although apoptosis remains an unfamiliar word and concept for some

physicians and scientists, an understanding of apoptosis has already become essential in explaining many fundamental biological processes such as those by which a variety of cardiovascular functions and diseases emerge and evolve. The word apoptosis was introduced by Kerr, Wyllie & Currie (1) to explain a generally ignored form of cell death very different from necrosis. It is an original Greek word referring to a quiet dropping out process similar to leaves falling from a tree, an image resembling most histologic examples of apoptosis. An excellent history of earlier morphological descriptions of this type over the past century has recently been published by Majno & Joris (2), but the broad significance of apoptosis to explain many normal biological functions, such as morphogenesis and the pathogenesis of a variety of immunological and malignant diseases, only began to be recognized more widely through several perceptive interpretations by Wyllie and his colleagues (3-5).

Regrettable delay in the appreciation of major opportunities for understanding the pathogenesis of disease is nothing new. For example, the pioneering reports of Glucksmann (6), Saunders (7), and Pexieder (8), in which they emphasized that cell death was not only normal but an essential component of morphogenesis, did not receive the attention of scientists or physicians that those reports warranted. Familiar examples of useful morphogenesis include the crucial role of cell death (by apoptosis) in the fetal transformation of interdigital webs into fingers and toes, and the postnatal death of enormous numbers of neurons in the development of useful signaling pathways during normal maturation of the brain.

When I first suggested that cell death was ubiquitous and also normal in the postnatal maturation of the AV (atrioventricular) node and His bundle and that it could pose a hazard for crib death (9), given certain concurrent factors present by chance (10), the idea was harshly criticized (11-13) for a variety of stated reasons. Some said that cell death was never normal, some said that they did not see examples of such cell death in the conduction system of the heart, while still others said yes they saw exactly what I described but that it was a normal phenomenon and not one of cell death because "there was no evidence of necrosis." Apoptosis was presumably an unfamiliar or unacceptable phenomenon for these critics. But as recently emphasized in my refutations of those criticisms, cell death is a normal component of postnatal morphogenesis of the human cardiac conduction system, and apoptosis is a major and possibly the principal mechanism by which this occurs (14).

However, the fact that apoptotic cell death may very often be useful does not mean that apoptosis is always a beneficial process. This seeming paradox--in some respects the yin and yang of cardiology--is better understood when one considers the multitude of different promoters or inhibitors of apoptosis, each of which has a progression that in some circumstances may be reversible, but at a later stage becomes irreversible, thus committing the cell inevitably to die. Unsurprisingly, the balance between promotion and inhibition of apoptosis often changes with time, or as a consequence of associated metabolic or toxic influences, and it differs in different organs of the mammalian body and differs to some degree between species. Whether apoptosis in the human heart is beneficial or harmful depends significantly upon when it happens and how long it lasts. It is the purpose of this review to examine both beneficial and harmful effects of apoptosis in the human heart and to briefly discuss their clinical significance.

ILLUSTRATIVE EXAMPLES OF NORMAL AND ABNORMAL CONSEQUENCES OF APOPTOSIS IN THE HUMAN HEART POSTNATAL MORPHOGENESIS OF THE CARDIAC CONDUCTION SYSTEM

Both the sinus node and the AV conduction system (node, His bundle, an
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4/7/8 (Item 2 from file: 98)
DIALOG(R)File 98:General Sci Abs/Full-Text
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03546695 H.W. WILSON RECORD NUMBER: BGSI97046695 (THIS IS THE FULLTEXT)
Cellular and molecular mechanisms of pulmonary vascular remodeling.
Stenmark, K. R
Mecham, R. P
Annual Review of Physiology (Annu Rev Physiol) v. 59 ('97) p. 89-144
LANGUAGE: English
COUNTRY OF PUBLICATION: United States
WORD COUNT: 25314

ABSTRACT: In many organs and tissues, the cellular response to injury is associated with a reiteration of specific developmental processes. Studies have shown that, in response to injury, vascular wall cells in adult organisms express genes or gene products characteristic of earlier developmental states. Other genes, expressed preferentially in adult cells in vivo, are down-regulated following injurious stimuli. Complicating matters, however, are recent observations demonstrating that the vascular wall is comprised of phenotypically heterogeneous subpopulations of endothelial cells, smooth muscle cells, and fibroblasts. It is unclear how specific subsets of cells respond to injury and thus contribute to the vascular remodeling that characterizes chronic pulmonary hypertension. This review discusses vascular development in the lung and the cellular responses occurring in pulmonary hypertension; special attention is given to heterogeneity of responses within cell populations and reiteration of developmental processes. With permission, from the Annual Review of Physiology Volume 59, 1997, by Annual Reviews Inc. (<http://www.annurev.org>).

TEXT:

KEY WORDS: pulmonary hypertension, lung development, vascular development, vascular injury, smooth muscle cells, fibroblasts, endothelial cells

INTRODUCTION

In several adult tissues (e.g. liver and heart), the cellular response to injury is associated with a reiteration of specific developmental processes. This seems to be true for the vasculature as well. Studies have shown that adult smooth muscle cells (SMCs) responding to injury express genes or gene products (such as tropoelastin, fibronectin, tenascin, F31/H19, cytokeratin 8, and extra domain-A fibronectin) characteristic of earlier developmental states (76, 90, 101, 113, 134, 141). In addition, genes such as smooth muscle-specific a-actin, tropomyosin, desmin, and myosin, which are expressed preferentially in adult cells in vivo, are down-regulated when adult cells are stimulated to migrate and divide following injurious stimuli (116, 117). Similar though less extensive reports exist regarding re-expression of developmentally regulated genes by endothelial cells and fibroblasts in response to injury. Complicating matters, however, are recent observations demonstrating that the vascular

media is comprised of phenotypically heterogeneous subpopulations of SMCs. It is unclear if all adult medial SMC subpopulations are capable of responding to injury with changes in gene expression and replicative potential, or if the post-injury response is limited to specific subsets of cells within the vessel wall (222). The goal of this review is thus twofold: (a) to discuss vascular development in the lung, especially the mechanisms that control growth and differentiation (in an effort to lay the groundwork for understanding the cellular responses and the mechanisms that control them in the setting of pulmonary vascular injury) and (b) to discuss the cellular changes that occur in various forms of pulmonary hypertension, with special attention to heterogeneity of responses within cell populations and reiteration of developmental processes (Figure 1).

DEVELOPMENT OF THE PULMONARY VASCULATURE

The lung is a highly complex organ comprised of more than 40 different cell types (38) that are involved in both respiratory and nonrespiratory functions. Despite its eventual complexity of structure and function, the lung has ostensibly simple beginnings. The lung epithelium originates as paired outpocketings from the floor of the pharyngeal endoderm that expand into mesenchyme derived from splanchnic mesoderm. The epithelial rudiments subsequently undergo a series of repetitive branchings to give rise to the pulmonary tree. Much effort has been directed at defining the mechanisms that regulate normal epithelial pattern formation (termed branching morphogenesis), but much less is known about how the pulmonary vasculature is formed. The development and maintenance of normal vascular structure clearly plays a critical role in lung function, yet several major questions about the regulation of this process in the normal and diseased lung remain unanswered.

ENDOTHELIAL CELL REPLICATION AND VASCULOGENESIS IN THE DEVELOPING LUNG

In the embryonic lung, endothelial precursor cells (angioblasts) initially form a primary vascular plexus within the tissue, which eventually links up to the main circulation, of sixth branchial arch origin, coming from the heart. Studies using intracoelomic chimeric recombinations between quail and chick embryonic lungs have demonstrated that the endoderm seems to control lung vasculogenesis by inducing the emergence of endothelial cells in its associated mesoderm (184). Furthermore, tissue mixing experiments also suggest that vessel formation in the lung, like branching morphogenesis, may depend on the interaction between epithelium and mesenchyme (129, 143, 212). Thus a true reciprocity would exist in which epithelial proliferation and differentiation are induced by an as-yet-unidentified mesenchymal cell population. The induced epithelium (or a subpopulation of cells thereof) in turn produces factors that stimulate endothelial cell proliferation and organization. The endothelium itself may then produce factors to recruit other mesenchymal cells (e.g. SMC precursors) necessary for the completion of vessel structure.

Specific growth factors found in the developing lung, including acidic fibroblast growth factor (aFGF), basic fibroblast growth factor (bFGF), and platelet-derived endothelial cell growth factor (PD-ECGF), regulate endothelial cell proliferation in vivo and in vitro (81, 84, 99, 216). Another candidate molecule likely to play a major role in lung vascular development is vascular endothelial growth factor (VEGF), a member of the PDGF family that is identical to vascular permeability factor (157) and vasculotropin (190). It is abundant in highly vascularized tissues such as kidney, placenta, and lung. Unlike the FGFs, VEGF appears to be an

endothelial-specific mitogen and is involved in both
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4/7/9 (Item 1 from file: 144)

DIALOG(R)File 144:Pascal

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13863741 PASCAL No.: 99-0041435

Influence des alleles de l'apolipoproteine E sur la restenose apres
angioplastie coronaire chez la femme

(Influence of apolipoprotein E alleles on post-angioplasty
restenosis in woman)

FLORK L; JOUANEL P; LUSSON J R; LEAUTE S; DAUPHIN C; MOTREFF P; JUSTIN E
P; LAMAISON D; BOIRE J Y; CASSAGNES J

Service de cardiologie, CHU G-Montpied, 63009 Clermond-Ferrand, France;
Laboratoire de biochimie, CHU Hotel-Dieu, 63009 Clermond-Ferrand, France;
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Journal: Archives des maladies du coeur et des vaisseaux, 1998, 91 (12)
1475-1479

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No. of Refs.: 23 ref.

Document Type: P (Serial) ; A (Analytic)

Country of Publication: France

Language: French

Meme si l'emploi d'endoprothese en diminue l'incidence, le phenomene de restenose coronaire apres dilatation percutanee reste entier. L'influence des lipoproteines dans le developpement de l'atherosclerose n'est plus a demontrer, mais leur role dans la restenose est plus discutable. Des resultats contradictoires ont ete publies a propos de la responsabilite du genotype de l'Apo E. Dans un premier travail, nous avons mis en evidence la relation LP (a) et coronaropathie plus etroite chez la femme que chez l'homme, Un sous-groupe de patientes qui ont eu une angioplastie dont le profil lipidique etait bien etabli a ete analyse en se focalisant sur les alleles de l'Apo E. Methodes : 59 patientes ont eu une angioplastie parmi lesquelles 35 monotronculaires, 20 bitronculaires et 4 tritronculaires. Une coronarographie de controle a ete pratiquée chez 40 patientes. Un interrogatoire telephonique a ete realise entre 12 et 22 mois apres la dilatation a l'ensemble de la population. Les apolipoproteines A1, B, LP (a) et LP A1 sont dosees par techniques immunologiques, turbidimetriques ou electro-immunologiques. Le genotypage de l'Apo E est realise a l'aide du kit Inno-Lipa. Resultats : la repartition des patientes est la suivante : 18 restenoses angiographiques (groupe A), 20 coronarographies sans restenose (groupe B), 41 sans restenose angiographique (20) ou clinique (21) (groupe C). Dans le groupe A, la LP (a) depasse largement le seuil de 0,30 g/L. L'allele e4 est associe a un cholestérol total et sa fraction LDL les plus eleves. Il n'y a pas de difference significative entre le genotype Apo E des differents groupes ni en fonction de la severite des lesions. En conclusion : si l'allele e4 est plus frequemment associe a un taux eleve de LDL cholestérol et LP (a), nous n'avons pas prouve son role dans le processus de restenose. Un nombre de malades plus Important est necessaire et des travaux complementaires souhaitables pour comprendre les mecanismes inflammatoires et/ou immunologiques par lesquels l'Apo E pourrait intervenir dans la restenose.

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4/7/10 (Item 2 from file: 144)
DIALOG(R)File 144:Pascal
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13475066 PASCAL No.: 98-0172121
EPIDEMIOLOGIE DE LA MALADIE CORONAIRE : RECHERCHE DES DETERMINANTS
GENETIQUES DE LA VASOMOTRICITE CORONAIRE ET DE LA RESTENOSE
(CORONARY DISEASE EPIDEMIOLOGY : CORONARY AND **RESTENOSIS** GENETIC
RISK FACTORS DETERMINATION)
AMANT Carole; AMOUYEL Philippe, dir
Universite de Lille 1, Villeneuve-d'Ascq, Francee
Univ.: Universite de Lille 1. Villeneuve-d'Ascq. FRA Degree: Th. doct.
1997-12; 1997 183 p.
Availability: INIST-T 116002; T97LIL10134 0000; RBCCN-590092102;
T97LIL10134 0000
No. of Refs.: 214 ref.
Document Type: T (Thesis) ; M (Monographic)
Country of Publication: France
Language: French Summary Language: French; English
L'insuffisance coronaire et l'infarctus du myocarde sont les premieres
causes de mortalite et de morbidite dans les pays industrialises. Comme
dans la plupart des maladies multifactorielles, de nombreux facteurs de
risque predisposent au developpement et a la survenue de la maladie
coronaire. Il s'agit des facteurs de risque environnementaux et des
facteurs de susceptibilite genetique. Dans le travail presente ici, nous
nous sommes focalises sur des genes candidats issus du systeme
renine-angiotensine. Les etudes developpees ont consiste a mesurer le degre
d'implication de ce systeme dans les phenomenes de restenose et de
vasoconstriction accrue. Nos resultats suggerent que l'**allele** D du
gene de l'Enzyme de Conversion de l'Angiotensine I (ECA) constitue un
facteur de risque majeur d'occlusion apres angioplastie conventionnelle et
de restenose apres angioplastie avec pose d'endoprothese coronaire, le
stent. Nous avons aussi mis en evidence que l'**allele** C du gene du
recepteur de l'angiotensine II de type 1 (AT1) est lie a une
vasoconstriction coronaire augmentee. Cliniquement, ces resultats sont
interessants car ils permettent d'identifier les patients a haut risque de
restenose et/ou de vasoconstriction augmentee dans le but de prevenir les
accidents coronaires graves qui pourraient survenir, tels qu'un infarctus
post-angioplastie ou un vasospasme. Cependant d'autres etudes sont
necessaires pour verifier nos resultats tant au niveau epidemiologique
qu'aux niveaux clinique et physiologique.

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4/7/11 (Item 1 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

11567561 21405569 PMID: 11514491
Interleukin 1 receptor antagonist gene **polymorphism** and
restenosis after coronary angioplasty.
Francis SE; Camp NJ; Burton AJ; Dewberry RM; Gunn J; Stephens-Lloyd A;

Cumberland DC; Gershlick A; Crossman DC

Cardiovascular Medicine Group, Division of Clinical Sciences, Clinical Sciences Centre, University of Sheffield, Northern General Hospital, Sheffield S5 7AU, UK.

Heart (England) (Sep 2001, 86 (3) p336-40, ISSN 1468-201X

Journal Code: CEN

Languages: ENGLISH

Document type: Journal Article

Record type: In Process

BACKGROUND: Percutaneous transluminal coronary angioplasty (PTCA) is limited by the recurrence of luminal stenosis, which occurs in up to 50% of procedures. It has been shown that patient specific factors, perhaps genes, contribute to this process. OBJECTIVE: To determine whether completion of healing after PTCA is part of an acute self limiting inflammatory process and whether **polymorphism** at important inflammatory gene loci might determine susceptibility to **restenosis** after PTCA. DESIGN: DNA samples were collected from 171 patients attending for elective PTCA in Sheffield (S) and Leicester (L), who were scheduled to undergo follow up angiography (at four months (L) or six months (S)) as part of other **restenosis** studies. At follow up angiography, the patients were separated into restenosis (> 50% luminal narrowing) and non-restenosis (< 50% luminal narrowing). Four DNA polymorphisms within **interleukin 1** (**IL-1**) related loci (**IL-1A** (-889), **IL-1B** (-511), **IL-1B** (+3954), and **IL-1RN** intron 2 VNTR (variable number tandem repeat)) were genotyped using methods based on polymerase chain reaction. Significance was assessed by chi(2) analysis of the relevant contingency table, and the magnitude of effect was estimated by calculating odds ratios. The Mantel-Haenszel (MH) test was applied to summarise data across the two populations. RESULTS: **Allele 2** at **IL-1RN** (**IL-1RN*2**) was significantly over represented in the non-restenosis group (L+S, 34% v 23% in restenosis). Furthermore, **IL-1RN*2** homozygosity was increased in the non-restenosis population compared with the restenosis (MH test: p = 0.0196 (L+S); p = 0.031 (L+S, single vessel disease only), and the effect seemed to be restricted to the single vessel disease subpopulation. For other **polymorphism** within **IL-1** related loci no significant associations were found with either **restenosis** or non-restenosis. CONCLUSIONS: **IL-1RN*2** may be associated with protection from **restenosis** after PTCA for individuals with single vessel disease. As this **polymorphism** has functional significance, this finding suggests that alteration in an individual's inflammatory predisposition may modulate the blood vessel response to injury.

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4/7/12 (Item 1 from file: 399)

DIALOG(R)File 399:CA SEARCH(R)

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135032750 CA: 135(3)32750s PATENT

Interleukin-1 homologue, MAT IL-1H4

INVENTOR(AUTHOR): Kumar, Sanjay; McDonnell, Peter C.; Young, Peter R.

LOCATION: USA

ASSIGNEE: Smithkline Beecham Corporation

PATENT: PCT International ; WO 0140247 A1 DATE: 20010607

APPLICATION: WO 2000US32521 (20001130) *US 452140 (19991201)

PAGES: 30 pp. CODEN: PIXXD2 LANGUAGE: English CLASS: C07H-021/02A; C12N-015/00B; C12N-005/00B; C07K-001/00B; C07K-016/00B

DESIGNATED COUNTRIES: JP DESIGNATED REGIONAL: AT; BE; CH; CY; DE; DK; ES
; FI; FR; GB; GR; IE; IT; LU; MC; NL; PT; SE; TR

SECTION:

CA215005 Immunochemistry

CA201XXX Pharmacology

CA203XXX Biochemical Genetics

CA209XXX Biochemical Methods

CA214XXX Mammalian Pathological Biochemistry

IDENTIFIERS: MAT interleukin 1H4 agonist antagonist screening, antibody
inflammation mature interleukin 1H4 inhibitor

DESCRIPTORS:

Respiratory distress syndrome...

acute; interleukin 1H4 and mature IL-1H4 for screening agonists and
antagonists for treating inflammation, infection, cancer, autoimmune
disease and others

Diagnosis...

agents; interleukin 1H4 and mature IL-1H4 for screening agonists and
antagonists for treating inflammation, infection, cancer, autoimmune
disease and others

Immunoassay...

enzyme-linked immunosorbent assay; interleukin 1H4 and mature IL-1H4
for screening agonists and antagonists for treating inflammation,
infection, cancer, autoimmune disease and others

Heart,disease...

failure; interleukin 1H4 and mature IL-1H4 for screening agonists and
antagonists for treating inflammation, infection, cancer, autoimmune
disease and others

Transplant and Transplantation...

graft-vs.-host reaction; interleukin 1H4 and mature IL-1H4 for
screening agonists and antagonists for treating inflammation,
infection, cancer, autoimmune disease and others

Intestine,disease...

inflammatory; interleukin 1H4 and mature IL-1H4 for screening agonists
and antagonists for treating inflammation, infection, cancer,
autoimmune disease and others

Brain,disease...

injury; interleukin 1H4 and mature IL-1H4 for screening agonists and
antagonists for treating inflammation, infection, cancer, autoimmune
disease and others

AIDS(disease)... Allergy... Alzheimer's disease... Antibodies... Arthritis
... Asthma... Atherosclerosis... Autoimmune disease... Bone,disease... cDNA
sequences... Drug screening... Fusion proteins(chimeric proteins)...

Infection... Inflammation... Ischemia... Labels... Lymphoproliferative
disorders... Molecular cloning... mRNA... Mutation... Neoplasm... Nucleic
acid hybridization... Oligonucleotides... Osteoporosis... Protein sequences
... Psoriasis... Septicemia... Stress,animal... Susceptibility(genetic)...

Transplant rejection...

interleukin 1H4 and mature IL-1H4 for screening agonists and
antagonists for treating inflammation, infection, cancer, autoimmune
disease and others

Probes(nucleic acid)...

labeled; interleukin 1H4 and mature IL-1H4 for screening agonists and
antagonists for treating inflammation, infection, cancer, autoimmune
disease and others

Artery,disease...

restenosis; interleukin 1H4 and mature IL-1H4 for screening agonists
and antagonists for treating inflammation, infection, cancer,
autoimmune disease and others

12219937 BIOSIS NO.: 199900514786

Insertion/deletion **polymorphism** of the **angiotensin**-converting enzyme and **restenosis** after coronary stent placement.

AUTHOR: Kastrati Adnan; Koch Werner; Elezi Shpend; Kettling Corinna; Mehilli Julinda; Von Beckerath Nicolas; Schomig Albert

AUTHOR ADDRESS: Dtsch. Herzzent., 1. Med. Klin., TUM, Munich**Germany

JOURNAL: Circulation 98 (17 SUPPL.):pI433 Oct. 27, 1998

CONFERENCE/MEETING: 71st Scientific Sessions of the American Heart Association Dallas, Texas, USA November 8-11, 1998

SPONSOR: The American Heart Association

ISSN: 0009-7322

RECORD TYPE: Citation

LANGUAGE: English

7/7/19 (Item 19 from file: 5)

DIALOG(R)File 5:Biosis Previews(R)

(c) 2001 BIOSIS. All rts. reserv.

12211510 BIOSIS NO.: 199900506359

Not the **ACE** gene **polymorphism**, but the E-selectin gene **polymorphism** helps to predict **restenosis** after coronary angioplasty.

AUTHOR: Rauchhaus Mathias(a); Francis Darrel P; Schmidt Hendrik; Teichmann Wilhelm; Glaeser Christiane

AUTHOR ADDRESS: (a)ICSM, NHLI, London**UK

JOURNAL: Circulation 98 (17 SUPPL.):pI393-I394 Oct. 27, 1998

CONFERENCE/MEETING: 71st Scientific Sessions of the American Heart Association Dallas, Texas, USA November 8-11, 1998

SPONSOR: The American Heart Association

ISSN: 0009-7322

RECORD TYPE: Citation

LANGUAGE: English

7/7/22 (Item 22 from file: 5)

DIALOG(R)File 5:Biosis Previews(R)

(c) 2001 BIOSIS. All rts. reserv.

12192449 BIOSIS NO.: 199900487298

Long-term clinical outcome of coronary stenting: Role of the D **allele** of the **ACE** gene, and importance of the angiographic pattern of **restenosis**.

AUTHOR: Ribichini F(a); Ferrero V(a); Vado A(a); Steffenino G(a); Dellavalle A(a); Russo P(a); Matullo G; Colajanni E; Guarrera S; Piazza A; Uslenghi E(a)

AUTHOR ADDRESS: (a)Divisione di Cardiologia, Ospedale Santa Croce di Cuneo, Cuneo**Italy

JOURNAL: European Heart Journal 20 (ABSTR. SUPPL.):p602 Aug., 1999

CONFERENCE/MEETING: XXIst Congress of the European Society of Cardiology Barcelona, Spain August 28-September 1, 1999

SPONSOR: European Society of Cardiology

ISSN: 0195-668X

RECORD TYPE: Citation

LANGUAGE: English

7/7/28 (Item 28 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
(c) 2001 BIOSIS. All rts. reserv.

11741680 BIOSIS NO.: 199800522376
Significance of **angiotensin** I-converting enzyme gene
polymorphism as risk factor for stent **restenosis**.
AUTHOR: Guerlek Adalet(a); Bokesoy Isik; Gulec Sadi(a); Karabult Halil;
Toydemir Reha; Aras Omer; Oral Dervis(a)
AUTHOR ADDRESS: (a)Med. Sch. Ankara Univ., Dep. Cardiology, Ankara**Turkey
JOURNAL: European Heart Journal 19 (ABST. SUPPL.):p34 Aug., 1998
CONFERENCE/MEETING: XXth Congress of the European Society of Cardiology
Vienna, Austria August 22-26, 1998
SPONSOR: European Society of Cardiology
ISSN: 0195-668X
RECORD TYPE: Citation
LANGUAGE: English

7/7/77 (Item 17 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
(c) 2001 Inst for Sci Info. All rts. reserv.

06053694 Genuine Article#: XE898 Number of References: 0
Title: **Angiotensin**-converting enzyme gene **polymorphism** and risk
of **restenosis** after coronary stenting
Author(s): Barberis P; Merlini PA; Cavalotti C; Bernardi F; Marchetti G;
Ferraresi P; Laudisa ML; Ardissino D
Corporate Source: POLICLIN SAN MATTEO,IRCCS, DIV CARDIOL/I-27100
PAVIA//ITALY//; UNIV FERRARA,DEPT BIOCHEM & MOL BIOL/I-44100
FERRARA//ITALY/
Journal: THROMBOSIS AND HAEMOSTASIS, 1997, S (JUN), PP2125-P2125
ISSN: 0340-6245 Publication date: 19970600
Publisher: F K SCHATTAUER VERLAG GMBH, P O BOX 10 45 45, LENZHALDE 3,
D-70040 STUTTGART, GERMANY
Language: English Document Type: MEETING ABSTRACT

343779-79-3 unclaimed sequence; interleukin-1 homolog, MAT IL-1H4

4/7/13 (Item 2 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)
(c) 2001 AMERICAN CHEMICAL SOCIETY. All rts. reserv.

134026093 CA: 134(3)26093t PATENT
Diagnostics and therapeutics for restenosis based on genotyping of the
interleukin-1 family
INVENTOR(AUTHOR): Kornman, Kenneth S.; Duff, Gordon W.; Crossman, David
C.; Francis, Sheila E.; Stephenson, Katherine
LOCATION: USA
ASSIGNEE: Interleukin Genetics, Inc.
PATENT: PCT International ; WO 200071753 A2 DATE: 20001130
APPLICATION: WO 2000US14299 (20000524) *US 317674 (19990524) *US 431352
(19991101)
PAGES: 129 pp. CODEN: PIXXD2 LANGUAGE: English CLASS: C12Q-001/68A
DESIGNATED COUNTRIES: AE; AG; AL; AM; AT; AU; AZ; BA; BB; BG; BR; BY; CA;
CH; CN; CR; CU; CZ; DE; DK; DM; DZ; EE; ES; FI; GB; GD; GE; GH; GM; HR; HU;
ID; IL; IN; IS; JP; KE; KG; KP; KR; KZ; LC; LK; LR; LS; LT; LU; LV; MA; MD;
MG; MK; MN; MW; MX; NO; NZ; PL; PT; RO; RU; SD; SE; SG; SI; SK; SL; TJ; TM;
TR; TT; TZ; UA; UG; US; UZ; VN; YU; ZA; ZW; AM; AZ; BY; KG; KZ; MD; RU; TJ;
TM DESIGNATED REGIONAL: GH; GM; KE; LS; MW; MZ; SD; SL; SZ; TZ; UG; ZW; AT
; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LU; MC; NL; PT; SE; BF;
BJ; CF; CG; CI; CM; GA; GN; GW; ML; MR; NE; SN; TD; TG
SECTION:
CA203003 Biochemical Genetics
CA201XXX Pharmacology
CA209XXX Biochemical Methods
CA214XXX Mammalian Pathological Biochemistry
CA215XXX Immunochemistry
IDENTIFIERS: interleukin 1 genotyping restenosis diagnosis therapeutic
DESCRIPTORS:
Nucleic acid hybridization...
allele-specific; diagnostics and therapeutics for restenosis based on
genotyping of the interleukin-1 family
Artery,disease...
coronary; restenosis; diagnostics and therapeutics for restenosis based
on genotyping of the interleukin-1 family
Allele frequency... Anticoagulants... Antihypertensives... Antisense
oligonucleotides... Anti-inflammatory agents... DNA sequence analysis...
Drug screening... Genetic polymorphism... Genotyping(method)... Hypolipemic
agents... Interleukin 1 receptor antagonist... Interleukin 1.alpha....
Interleukin 1.beta.... Interleukin 1... Mutation... Platelet aggregation
inhibitors... Primers(nucleic acid)... RFLP(restriction fragment length
polymorphism)... Ribozymes... SSCP(single-strand conformation polymorphism)
... Test kits...
diagnostics and therapeutics for restenosis based on genotyping of the
interleukin-1 family
Diagnosis...
genetic; diagnostics and therapeutics for restenosis based on
genotyping of the interleukin-1 family
Gene,animal...
IL-1RN; diagnostics and therapeutics for restenosis based on genotyping
of the interleukin-1 family
Gene,animal...
IL1A; diagnostics and therapeutics for restenosis based on genotyping

of the interleukin-1 family
 Gene, animal...
 IL1B; diagnostics and therapeutics for restenosis based on genotyping
 of the interleukin-1 family
 Heart, disease...
 infarction; diagnostics and therapeutics for restenosis based on
 genotyping of the interleukin-1 family
 Blood vessel, disease...
 occlusion; diagnostics and therapeutics for restenosis based on
 genotyping of the interleukin-1 family
 Genetic methods...
 oligonucleotide ligation assay; diagnostics and therapeutics for
 restenosis based on genotyping of the interleukin-1 family
 Periodontium...
 periodontitis; diagnostics and therapeutics for restenosis based on
 genotyping of the interleukin-1 family
 Nucleic acid amplification(method)...
 primer-specific extension; diagnostics and therapeutics for restenosis
 based on genotyping of the interleukin-1 family
 Artery, disease...
 restenosis; diagnostics and therapeutics for restenosis based on
 genotyping of the interleukin-1 family
 Oligonucleotides...
 triple helix forming; diagnostics and therapeutics for restenosis based
 on genotyping of the interleukin-1 family
 CAS REGISTRY NUMBERS:
 81295-04-7 81295-06-9 81295-40-1 84522-62-3 86352-30-9 92228-44-9
 172306-44-4 diagnostics and therapeutics for restenosis based on
 genotyping of the interleukin-1 family
 140744-82-7 140960-10-7 141002-08-6 nucleotide sequence; diagnostics and
 therapeutics for restenosis based on genotyping of the interleukin-1
 family
 188135-75-3 188135-76-4 188135-77-5 188135-78-6 188135-79-7
 193101-09-6 206073-47-4 224178-70-5 224178-77-2 249263-92-1
 249263-94-3 249263-96-5 309983-89-9 309983-90-2 PCR primer;
 diagnostics and therapeutics for restenosis based on genotyping of the
 interleukin-1 family
 244295-37-2 244295-38-3 244295-41-8 244295-42-9 309983-91-3
 309983-92-4 309983-93-5 309983-94-6 unclaimed nucleotide sequence;
 diagnostics and therapeutics for restenosis based on genotyping of the
 interleukin-1 family

4/7/14 (Item 3 from file: 399)
 DIALOG(R)File 399:CA SEARCH(R)
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134014046 CA: 134(2)14046s PATENT
 Diagnostics and therapeutics for cardiovascular disorders based on
 genotyping of the interleukin-1 family
 INVENTOR(AUTHOR): Francis, Sheila E.; Crossman, David C.; Duff, Gordon W.
 ; Kornman, Kenneth S.
 LOCATION: USA
 ASSIGNEE: Interleukin Genetics, Inc.
 PATENT: PCT International ; WO 200072015 A2 DATE: 20001130
 APPLICATION: WO 2000US14775 (20000526) *US 320395 (19990526) *US 431352
 (19991101)
 PAGES: 122 pp. CODEN: PIXXD2 LANGUAGE: English CLASS: G01N-033/53A

DESIGNATED COUNTRIES: AE; AG; AL; AM; AT; AU; AZ; BA; BB; BG; BR; BY; CA; CH; CN; CR; CU; CZ; DE; DK; DM; DZ; EE; ES; FI; GB; GD; GE; GH; GM; HR; HU; ID; IL; IN; IS; JP; KE; KG; KP; KR; KZ; LC; LK; LR; LS; LT; LU; LV; MA; MD; MG; MK; MN; MW; MX; NO; NZ; PL; PT; RO; RU; SD; SE; SG; SI; SK; SL; TJ; TM; TR; TT; TZ; UA; UG; US; UZ; VN; YU; ZA; ZW; AM; AZ; BY; KG; KZ; MD; RU; TJ; TM DESIGNATED REGIONAL: GH; GM; KE; LS; MW; MZ; SD; SL; SZ; TZ; UG; ZW; AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LU; MC; NL; PT; SE; BF; BJ; CF; CG; CI; CM; GA; GN; GW; ML; MR; NE; SN; TD; TG

SECTION:

CA203003 Biochemical Genetics

CA201XXX Pharmacology

CA209XXX Biochemical Methods

CA214XXX Mammalian Pathological Biochemistry

CA215XXX Immunochemistry

IDENTIFIERS: cardiovascular disease interleukin 1 gene family polymorphism, restenosis interleukin 1 gene family polymorphism, occlusive disorder interleukin 1 gene family polymorphism, fragile plaque disorder interleukin 1 gene family polymorphism, genotyping interleukin 1 gene family cardiovascular disease, RFLP interleukin 1 gene family cardiovascular disease

DESCRIPTORS:

Nucleic acid hybridization...

allele-specific; diagnostics and therapeutics for cardiovascular disorders based on genotyping of the interleukin-1 family

Proteins, specific or class...

C-reactive, IL-1 genotypes correlated with; diagnostics and therapeutics for cardiovascular disorders based on genotyping of the interleukin-1 family

Artery, disease...

coronary, restenosis; diagnostics and therapeutics for cardiovascular disorders based on genotyping of the interleukin-1 family

DNA sequence analysis... Drug screening... Genotyping(method)...

Interleukin 1 receptor antagonist... Interleukin 1.alpha.... Interleukin 1.beta.... Interleukin 1... Mutation... Primers(nucleic acid)...

RFLP(restriction fragment length polymorphism)... SSCP(single-strand conformation polymorphism)... Susceptibility(genetic)... Test kits...

diagnostics and therapeutics for cardiovascular disorders based on genotyping of the interleukin-1 family

Cardiovascular system...

disease; diagnostics and therapeutics for cardiovascular disorders based on genotyping of the interleukin-1 family

Blood vessel, disease...

fragile plaque; diagnostics and therapeutics for cardiovascular disorders based on genotyping of the interleukin-1 family

Diagnosis...

genetic; diagnostics and therapeutics for cardiovascular disorders based on genotyping of the interleukin-1 family

Gene, animal...

IL-1RN; diagnostics and therapeutics for cardiovascular disorders based on genotyping of the interleukin-1 family

Gene, animal...

IL1A; diagnostics and therapeutics for cardiovascular disorders based on genotyping of the interleukin-1 family

Gene, animal...

IL1B; diagnostics and therapeutics for cardiovascular disorders based on genotyping of the interleukin-1 family

Heart, disease...

infarction; diagnostics and therapeutics for cardiovascular disorders

based on genotyping of the interleukin-1 family

Lipoproteins...
 low-d., IL-1 genotypes correlated with; diagnostics and therapeutics for cardiovascular disorders based on genotyping of the interleukin-1 family

Lipoproteins...
 Lp(a), IL-1 genotypes correlated with; diagnostics and therapeutics for cardiovascular disorders based on genotyping of the interleukin-1 family

Angiogenesis...
 neovascularization, IL-1 genotypes correlated with; diagnostics and therapeutics for cardiovascular disorders based on genotyping of the interleukin-1 family

Blood vessel,disease...
 occlusion; diagnostics and therapeutics for cardiovascular disorders based on genotyping of the interleukin-1 family

Genetic methods...
 oligonucleotide ligation assay; diagnostics and therapeutics for cardiovascular disorders based on genotyping of the interleukin-1 family

Periodontium...
 periodontitis; diagnostics and therapeutics for cardiovascular disorders based on genotyping of the interleukin-1 family

Nucleic acid amplification(method)...
 primer-specific extension; diagnostics and therapeutics for cardiovascular disorders based on genotyping of the interleukin-1 family

Artery,disease...
 restenosis; diagnostics and therapeutics for cardiovascular disorders based on genotyping of the interleukin-1 family

Brain,disease...
 stroke; diagnostics and therapeutics for cardiovascular disorders based on genotyping of the interleukin-1 family

CAS REGISTRY NUMBERS:

57-88-5 biological studies, IL-1 genotypes correlated with; diagnostics and therapeutics for cardiovascular disorders based on genotyping of the interleukin-1 family

81295-04-7 81295-06-9 81295-40-1 81811-56-5 84522-62-3 86352-30-9 92228-44-9 diagnostics and therapeutics for cardiovascular disorders based on genotyping of the interleukin-1 family

188135-76-4 188135-77-5 188135-78-6 188135-79-7 193101-09-6 193101-10-9 224178-77-2 249263-92-1 249263-94-3 249263-96-5 PCR primer; diagnostics and therapeutics for cardiovascular disorders based on genotyping of the interleukin-1 family

244295-37-2 244295-38-3 244295-41-8 244295-42-9 309983-91-3 309983-92-4 309983-93-5 309983-94-6 unclaimed nucleotide sequence; diagnostics and therapeutics for cardiovascular disorders based on genotyping of the interleukin-1 family

4/7/15 (Item 4 from file: 399)
 DIALOG(R)File 399:CA SEARCH(R)
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133262303 CA: 133(19)262303m PATENT
 Human ABC1 transporter and DNA and methods for modulating cholesterol levels and diagnosing disease
 INVENTOR(AUTHOR): Hayden, Michael R.; Wilson, Angela R.; Pimstone, Simon

N.

LOCATION: Can.,

ASSIGNEE: University of British Columbia; Xenon Bioresearch, Inc.

PATENT: PCT International ; WO 200055318 A2 DATE: 20000921

APPLICATION: WO 2000IB532 (20000315) *US PV124702 (19990315) *US PV138048 (19990608) *US PV139600 (19990617) *US PV151977 (19990901)

PAGES: 229 pp. CODEN: PIXXD2 LANGUAGE: English CLASS: C12N-015/12A; C07K-014/705B; C12N-005/10B; A01K-067/027B; C12N-015/00B; A61K-038/17B; A61K-048/00B; A61K-038/45B; A61K-031/00B; A61K-031/70B; G01N-033/68B; C12Q-001/68B; C12N-015/11B DESIGNATED COUNTRIES: AE; AL; AM; AT; AU; AZ; BA; BB; BG; BR; BY; CA; CH; CN; CR; CU; CZ; DE; DK; DM; DZ; EE; ES; FI; GB; GD; GE; GH; GM; HR; HU; ID; IL; IN; IS; JP; KE; KG; KP; KR; KZ; LC; LK; LR; LS; LT; LU; LV; MA; MD; MG; MK; MN; MW; MX; NO; NZ; PL; PT; RO; RU; SD; SE; SG; SI; SK; SL; TJ; TM; TR; TT; TZ; UA; UG; UZ; VN; YU; ZA; ZW; AM; AZ; BY; KG; KZ; MD; RU; TJ; TM DESIGNATED REGIONAL: GH; GM; KE; LS; MW; SD; SL; SZ; TZ; UG; ZW; AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LU; MC; NL; PT; SE; BF; BJ; CF; CG; CI; CM; GA; GN; GW; ML; MR; NE; SN; TD; TG

SECTION:

CA203003 Biochemical Genetics

CA201XXX Pharmacology

CA206XXX General Biochemistry

CA213XXX Mammalian Biochemistry

IDENTIFIERS: sequence human gene ABC1 transporter cDNA, cholesterol transport familial HDL deficiency ABC1 gene mutation

DESCRIPTORS:

Transport proteins...

ABC1 (ATP binding cassette-contg. 1); human ABC1 transporter and DNA and methods for modulating cholesterol levels and diagnosing disease Genetic vectors...

ABC1 gene-contg.; human ABC1 transporter and DNA and methods for modulating cholesterol levels and diagnosing disease

RNA splicing...

ABC1 mutation affecting, disease and; human ABC1 transporter and DNA and methods for modulating cholesterol levels and diagnosing disease

Interleukin 1.beta....

ABC1 transport of; human ABC1 transporter and DNA and methods for modulating cholesterol levels and diagnosing disease

Gene, animal...

ABC1; human ABC1 transporter and DNA and methods for modulating cholesterol levels and diagnosing disease

Chicken(Gallus domesticus)... Mammal(Mammalia)...

ABC1/ABC1 mutant-expressing; human ABC1 transporter and DNA and methods for modulating cholesterol levels and diagnosing disease

Brain,disease...

cerebrovascular; human ABC1 transporter and DNA and methods for modulating cholesterol levels and diagnosing disease

Artery,disease...

coronary, restenosis; human ABC1 transporter and DNA and methods for modulating cholesterol levels and diagnosing disease

Artery,disease...

coronary; human ABC1 transporter and DNA and methods for modulating cholesterol levels and diagnosing disease

Mutation...

deletion, of ABC1 gene, disease and; human ABC1 transporter and DNA and methods for modulating cholesterol levels and diagnosing disease

Cardiovascular system...

disease; human ABC1 transporter and DNA and methods for modulating cholesterol levels and diagnosing disease

Disease, animal...
 familial HDL deficiency, ABC1 gene mutations and; human ABC1
 transporter and DNA and methods for modulating cholesterol levels and
 diagnosing disease
 cDNA sequences...
 for human ABC1 transporter
 Mutation...
 frameshift, of ABC1 gene, disease and; human ABC1 transporter and DNA
 and methods for modulating cholesterol levels and diagnosing disease
 Lipoproteins...
 high-d., cholesterol; human ABC1 transporter and DNA and methods for
 modulating cholesterol levels and diagnosing disease
 Alzheimer's disease... Neoplasm... Niemann-Pick disease...
 human ABC1 transporter and DNA and methods for modulating cholesterol
 levels and diagnosing disease
 Chromosome...
 human 9, ABC1 gene mapped to; human ABC1 transporter and DNA and
 methods for modulating cholesterol levels and diagnosing disease
 Nervous system...
 Huntington's chorea; human ABC1 transporter and DNA and methods for
 modulating cholesterol levels and diagnosing disease
 Mutation...
 nonsense, of ABC1 gene, disease and; human ABC1 transporter and DNA and
 methods for modulating cholesterol levels and diagnosing disease
 Genetic mapping... Genetic polymorphism... mRNA... Promoter(genetic
 element)... RFLP(restriction fragment length polymorphism)...
 of ABC1 gene; human ABC1 transporter and DNA and methods for modulating
 cholesterol levels and diagnosing disease
 Biological transport...
 of cholesterol; human ABC1 transporter and DNA and methods for
 modulating cholesterol levels and diagnosing disease
 Protein sequences...
 of human ABC1 transporter
 DNA sequences...
 of human ABC1 transporter gene ABC1 exons and flanks
 Blood vessel, disease...
 peripheral; human ABC1 transporter and DNA and methods for modulating
 cholesterol levels and diagnosing disease
 Mutation...
 substitution, of ABC1 gene, disease and; human ABC1 transporter and DNA
 and methods for modulating cholesterol levels and diagnosing disease
 Disease, animal...
 Tangier, ABC1 gene mutations and; human ABC1 transporter and DNA and
 methods for modulating cholesterol levels and diagnosing disease
 Antidiabetic agents...
 thiozolidinediones, modulation of ABC1 with; human ABC1 transporter and
 DNA and methods for modulating cholesterol levels and diagnosing
 disease
 Brain, disease...
 X-linked adrenoleukodystrophy; human ABC1 transporter and DNA and
 methods for modulating cholesterol levels and diagnosing disease
 CAS REGISTRY NUMBERS:
 296343-83-4 296343-89-0 296787-98-9 amino acid sequence; human ABC1
 transporter and DNA and methods for modulating cholesterol levels and
 diagnosing disease
 56-65-5 biological studies, binding/hydrolysis by ABC1 of; human ABC1
 transporter and DNA and methods for modulating cholesterol levels and
 diagnosing disease

57-88-5 biological studies, human ABC1 transporter and DNA and methods for
modulating cholesterol levels and diagnosing disease

50-28-2 59-67-6 biological studies, modulation of ABC1 with; human ABC1
transporter and DNA and methods for modulating cholesterol levels and
diagnosing disease

943-45-3D derivs., inhibitors, modulation of ABC1 with; human ABC1
transporter and DNA and methods for modulating cholesterol levels and
diagnosing disease

506-32-1D derivs., modulation of ABC1 with; human ABC1 transporter and DNA
and methods for modulating cholesterol levels and diagnosing disease

9028-35-7 71160-24-2 inhibitors, modulation of ABC1 with; human ABC1
transporter and DNA and methods for modulating cholesterol levels and
diagnosing disease

18104-45-5 28822-58-4 37353-31-4 50892-23-4 78111-17-8 98462-03-4
98524-19-7 141436-78-4 142008-29-5 modulation of ABC1 with; human
ABC1 transporter and DNA and methods for modulating cholesterol levels
and diagnosing disease